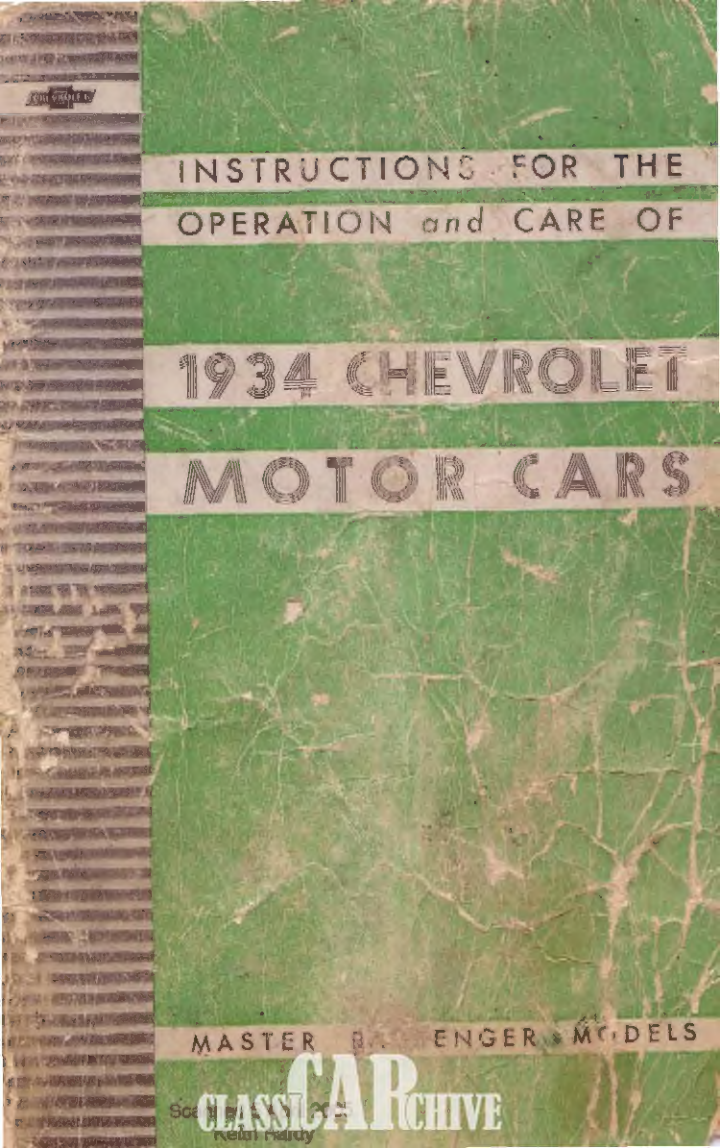
INSTRUCTIONS FOR THE
OPERATION and CARE OF
1934 CHEVROLET
MOTOR CARS
MASTER
ENGER
MODELS
CLASSIC CAR CHIVE

for Economical Transportation

CHEVROLET

Instructions for the Operation and Care of

CHEVROLET MOTOR CARS

MASTER
SERIES DA
PASSENGER MODELS

★

1934

FOURTH EDITION

CHEVROLET MOTOR CO.
Division of General Motors Corporation
DETROIT, MICHIGAN

PRINTED IN U. S. A.

Fourth Edition

YOUR PROTECTION

CHEVROLET

ANY CHEVROLET OWNER

experiencing defective workmanship or material on a Chevrolet car under the terms of Chevrolet's Standard Warranty is invited to call on any authorized Chevrolet Dealer in the United States or Canada where the work will be done at no cost to him

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CHAPTER I

GENERAL INFORMATION

CHEVROLET STANDARD WARRANTY

WARRANTY

It is expressly agreed that there are no warranties, expressed or implied, made by the Dealer or the Manufacturer on Chevrolet motor vehicles, chassis or parts furnished hereunder except as follows:

"The Manufacturer warrants each new motor vehicle (including original equipment placed thereon by the manufacturer except tires), chassis or part manufactured by it to be free from defects in material or workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to it with transportation charges prepaid and which its examination shall disclose to its satisfaction to have been thus defective; This warranty being expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on its part, and it neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of its vehicles. This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an authorized Chevrolet Service Station in any way so as in the judgment of the Manufacturer to affect its stability and reliability, nor which has been subject to misuse, negligence or accident."

The Dealer agrees to install any part or parts furnished under the Manufacturer's warranty on the motor vehicle without charge to the owner of such motor vehicle.

This warranty does not apply to second-hand cars or cars not mentioned above.

POLICY

The Dealer also agrees to promptly perform and fulfill all terms and conditions of the Owner Service Policy.

HOW TO SECURE PROMPT CHEVROLET SERVICE

● INDICATES THE LOCATION OF CHEVROLET FACTORIES OR DISTRIBUTING BRANCHES WHERE A COMPLETE STOCK OF PARTS FOR ALL CHEVROLET CARS IS CARRIED. EACH FACTORY OR BRANCH CONTROLS THE SURROUNDING TERRITORY

○ INDICATES WHOLESALE OFFICES. NO PARTS STOCK CARRIED AT THESE OFFICES.

EACH FACTORY OR BRANCH IS PREPARED TO MAKE PROMPT SHIPMENT TO ANY POINT WITHIN ITS TERRITORY. WHEN ORDERING PARTS OR CORRESPONDING REGARDING OUR CARS, PLEASE ADDRESS FACTORY OR BRANCH CONTROLLING TERRITORY IN WHICH YOU RESIDE

1. FLINT
2. TARRYTOWN
3. ST. LOUIS
4. MINNEAPOLIS
5. KANSAS CITY
6. OAKLAND
7. DALLAS
8. ATLANTA
9. NORWOOD
10. DENVER
11. CHICAGO
12. BUFFALO
13. PITTSBURGH
14. BALTIMORE
15. PHILADELPHIA
16. CHARLOTTE
17. MEMPHIS
18. DES MOINES
19. PORTLAND
20. LOS ANGELES
21. JANESVILLE
22. LOUISVILLE
23. OKLAHOMA CITY
24. NEW ORLEANS
25. INDIANAPOLIS
26. JACKSONVILLE
27. NEW YORK
28. CLEVELAND
29. OMAHA
30. HOUSTON
31. BIRMINGHAM
32. BOSTON
33. FARGO
34. SALT LAKE CITY
35. RICHMOND
36. GREAT FALLS
37. EL PASO
38. WICHITA
39. PORTLAND
40. DETROIT
41. KNOXVILLE
42. DAVENPORT
43. SYRACUSE
44. HARRISBURG

DIRECTIONS FOR ORDERING PARTS

Always use GENUINE CHEVROLET PARTS for replacement and order them from your Authorized Chevrolet Dealer, so as to avoid the possibility of having purchased inferior or substitute parts. IT IS UNDERSTOOD AND AGREED THAT OUR STANDARD WARRANTY IS NULL AND VOID ON ANY CHEVROLET MODEL WHERE PARTS NOT MADE OR SOLD BY US ARE USED IN ANY REPLACEMENT OR OTHERWISE.

If replacement parts are ordered from our factories or branches describe the parts completely and specify the car serial number, the location of which may be found on page 8.

If in doubt as to the proper name for the part required, send the broken part to the attention of the Parts and Service Manager, Parts and Service Department, prepaid, and write a letter the same date your shipment goes forward, stating the purpose for which the part was returned.

When ordering from a factory or branch, send remittance with order, as we cannot open accounts, except with our Authorized Dealers. Orders not accompanied by remittance will be dispatched C. O. D.

When ordering parts by telegram, always prepay the message. Collect messages will not be accepted by this company.

All Chevrolet Dealers carry a complete stock of essential parts; therefore, delays in the execution of your order will be eliminated by placing your order with your Authorized Chevrolet Dealer.

A complete stock of Chevrolet parts is carried at Factories and Branches, as indicated by the following list and the map on page 6.

FACTORIES AND BRANCHES

FACTORIES

Flint, Michigan
Oakland, Calif.
Kansas City, Mo.
Tarrytown, N. Y.
Buffalo, N. Y.
Janesville, Wis.
Norwood, Ohio
St. Louis, Mo.
Atlanta, Ga.

BRANCHES

Dallas, Texas
Baltimore, Md.
Portland, Oregon
Omaha, Neb.
Charlotte, N. C.
Memphis, Tenn.
New Orleans, La.
Knoxville, Tenn.
Philadelphia, Pa.
Great Falls, Mont.
Louisville, Kentucky
Houston, Texas
Minneapolis, Minn.
Denver, Colo.
Jacksonville, Fla.
Los Angeles, Calif.
Indianapolis, Ind.
Birmingham, Ala.
Salt Lake City, Utah
El Paso, Texas
Fargo, N. D.
Oklahoma City, Okla.
Pittsburgh, Pa.
Des Moines, Iowa
Cleveland, Ohio
Boston, Mass.
Amarillo, Texas
Richmond, Va.
Wichita, Kans.

Important Notice: SEND PARTS ORDERS to Factory or Branch. Wholesale Offices do not carry a Parts Stock. See Map on Page 6.

WHOLESALE OFFICES

Chicago, Ill.	Syracuse, N. Y.	Davenport, Iowa
Detroit, Mich.	Portland, Me.	Harrisburg, Pa.
	New York, N. Y.	

LICENSE AND INSURANCE DATA

Car Serial Number:

Closed Body—Stamped on plate on right front sill.
Open Body—Stamped on plate on right front seat frame.

Motor Number:

Stamped on a boss on right side of cylinder block, just back of the fuel pump. (Check with Bill of Sale.)

Wheelbase.....112"
Tire Sizes.....5.50 x 17"
Tire Pressure.....28 lbs. min.-32 lbs. max.

Motor:

Number of Cylinders..... 6
Bore..... $3\frac{5}{16}$"
Stroke..... 4"
Horsepower (N. A. C. C.)..... 26.3
Piston Displacement.....206.8 cu. in.

Shipping Weights, Less Gas, Water and Extra Equipment:

Sport Roadster	5 Wheel.....	lbs.
Sport Roadster	6 Wheel.....	lbs.
Sedan	5 Wheel.....3080	lbs.
Sedan	6 Wheel.....3140	lbs.
Coach	5 Wheel.....2995	lbs.
Coach	6 Wheel.....	lbs.
Coupe (5-Window)	5 Wheel.....2895	lbs.
Coupe (5-Window)	6 Wheel.....	lbs.
Sport Coupe	5 Wheel.....2995	lbs.
Sport Coupe	6 Wheel.....	lbs.
Cabriolet	5 Wheel.....	lbs.

Cabriolet	6 Wheel	3020 lbs.
Town Sedan	5 Wheel	lbs.
Town Sedan	6 Wheel	3100 lbs.
Sedan Delivery		lbs.

Add 110 lbs. for road weight.

Note: These weights are compiled from all available statistics and are average weights from all plants, on which there is an allowable variation of fifty pounds.

Capacities:

Oil Capacity of Crankcase	5 qts.
Lubrication Capacity—Transmission	2½ pts.
Lubrication Capacity—Rear Axle	4½ pts.
Water Capacity Cooling System	11 qts.
Gasoline Tank	14 gals.

MESSAGE TO CHEVROLET OWNERS

We welcome you as a Chevrolet owner and shall always be interested in your welfare.

Your new Chevrolet like any piece of machinery, requires a certain amount of care at specified intervals and if your car is given this care, a maximum return on your investment, in transportation, may be expected, at the minimum cost per mile. The automobile manufacturer and Dealer both share in the responsibility of seeing to it that the car is delivered to the owner in first class condition, by the establishment of efficient methods of standardized maintenance, under the direction and supervision of mechanical experts.

Get the habit of making careful and periodic inspection. Keep all parts of the car clean and well lubricated (see Lubrication Chart, page 36 and 37).

Ask your Chevrolet Dealer about the Chevrolet Service Agreement. It relieves you of all of the worries concerning the proper time and kind of lubricants to use.

A new car should not be driven faster than 30 miles per hour, for the first 1000 miles.

The care given to a motor car during its first 1000 miles governs, to a large extent, the length and satisfaction of its service.

CHAPTER II

OPERATION

The degree of success attained in the use of any car, regardless of price or kind, is a direct result and in direct proportion to the thought and effort expended in caring for that car It therefore rests with the owner of the car to do the things recommended by us, or to see that they are performed by an Authorized Chevrolet Dealer.

Like any piece of machinery, the car requires a certain amount of care at specified intervals, especially during the first 1000 miles. If the car is given this care, a maximum return on the investment in transportation may be expected, at the minimum cost per mile.

The "Caution" sticker on the windshield should be followed closely A new car should not be driven faster than 30 miles per hour for the first 1000 miles. After 1000 miles the maximum speed should be increased not more than 5 miles per hour for each additional 100 miles of driving.

The service facilities of all Chevrolet Dealers are at your disposal Each Chevrolet Service Station is equipped to serve you This large service organization is for your convenience and safeguards your Chevrolet.

CONTROLS AND INSTRUMENTS

The first thing a driver of a new car must do is to familiarize himself with the various controls provided for its proper handling This does not apply to the beginner alone, as although there are many points of similarity between all cars, there are also important differences; and it is not wise, regardless of previous experience, to drive a new car before fully understanding what each control is for and how to use it. The following is a brief description of the levers, pedals, instruments and other devices used in the operation of the Chevrolet Six-Cylinder Car.

DOOR LOCKS

Your car is equipped with new design theft-resisting door locks They provide maximum protection of the car from theft

as well as protection of the occupants, when driving, as the car can be locked from the inside as well as from the outside

Fig. 1—Control Parts and Instruments

1—Horn Button
2—Gasoline Gauge
3—Speedometer
4—Ammeter
5—Light Switch
6—Choke Button
7—Throttle Button
8—Compartment Lock
9—Compartment
10—Water Temperature Indicator
11—Gear Shift Lever
12—Oil Pressure Gauge
13—Clutch Pedal
14—Headlamp Dimmer Switch
15—Ignition Switch
16—Brake Pedal
17—Hand Brake Lever
18—Starterator Pedal

To lock the car on the inside, push down on the buttons located on the window sills of the door. This completely disconnects the outside door handles from the locking mechanism.

To lock the car on the outside, the buttons on the window sill are pushed down and the outside door handle turned and the door closed. If the handle is not turned, the button on the door will return to its original position and the door would be unlocked, in which case, it will be necessary to use the key to lock the door.

Two keys are supplied with the door lock, which are also used in the ignition lock. There are no numbers stamped on the face of the key or on the face of the lock. The tab, on the end of the key, has the number of the key and lock stamped on it. *IT IS IMPERATIVE THAT A RECORD OF THIS NUMBER BE MADE BOTH BY THE DEALER AND THE OWNER, TO PROTECT YOU IN CASE YOUR KEYS ARE LOST.*

IF THE LOCK NUMBER IS NOT RECORDED IT IS VERY DIFFICULT FOR THE CUSTOMER TO OBTAIN THE CORRECT KEY, AS THIS CAN ONLY BE DONE BY COMMUNICATING WITH THE THEFT BUREAU OF THE CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN AND OBTAINING THE KEY NUMBER FROM THEM AND ORDERING THE KEY EITHER FROM THE CHEVROLET DEALER WHO SOLD YOU YOUR CAR, OR FROM THE CHEVROLET MOTOR COMPANY.

After a record has been made of the key number, the tab on the end of the key should be broken off and destroyed.

IGNITION LOCK

The keys supplied for the door lock are also used for unlocking and locking the ignition switch

THROTTLE CONTROL

The speed of the engine is controlled by opening and closing a throttle valve in the carburetor. This throttle is controlled from the driving compartment, both by a foot pedal and a throttle button. The foot pedal, or accelerator, is used to increase or decrease the speed of the car as required in driving. The throttle

button on the instrument panel is used for idling or when starting the engine, and may be set in any desired position. Its normal position is close up to the instrument panel. In this position the carburetor throttle valve is open just sufficiently to permit the engine to run at idling speed, after it is thoroughly warmed up. Adjustment of the idling speed relative to the throttle position may be made at the carburetor. For starting, the button should be pulled out about ½", but should be partly closed if the engine starts to race. It should, however, be left slightly open until the engine is warm enough to permit the button to be returned to its idling position without the engine stalling.

SPARK CONTROL

The regulation of the spark timing is operated automatically by the vacuum from the intake manifold and the automatic advance in the distributor. Additional control is secured by means of the octane selector on the distributor.

OCTANE SELECTOR

The octane selector provides a simple adjustment whereby the ignition timing may be advanced or retarded as much as 10 degrees from the standard setting in order to obtain the most

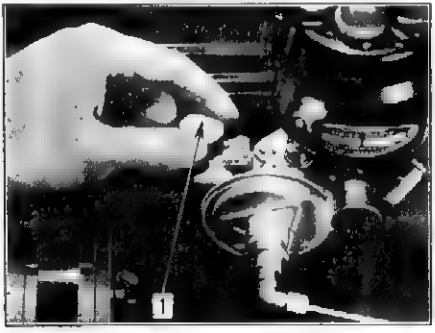


Fig. 2—Octane Selector

1—Adjustment Nut

efficient setting for any grade of gasoline used. If the gasoline is of high anti-knock value, greater power and economy will be obtained by advancing the spark from the standard setting. If on the other hand, gasoline of a lower than average grade is used, it may be necessary to retard the spark by means of the octane selector in order to avoid knocking of the engine

The setting of the octane selector is correct when the engine "pings" slightly under heavy load. This setting provides maximum fuel economy and maximum power for the particular fuel being used.

Where the octane rating of the gasoline being used is known, the following scale can be used to set the octane selector.

Octane Rating of Gasoline	*Set Scale To*
40	8 degrees retard
52	6 degrees retard
58	4 degrees retard
64-66	0 setting
72	3 degrees advance
78	6 degrees advance
80	8 degrees advance

You will note by the above scale, that each division of the scale, on the octane selector, represents TWO degrees of spark timing.

CHOKE CONTROL

When starting a cold engine, it is necessary to provide a fuel mixture richer in gasoline than is ordinarily required The choke control button operates a device on the carburetor for enriching the fuel mixture being supplied to the engine.

The correct use of the choke is extremely important, as if improperly handled it may seriously affect the life of the engine, by the thinning effect on the lubricating oil, of unburned gasoline leaking by the pistons.

The choke control must be pulled out far enough to provide a proper starting mixture, so that the engine will run evenly without "popping back" during the warming-up period. It must not, however, be pulled out any further than is necessary

to attain these results, and should be returned to its "off" position against the instrument panel as soon as the engine operation will permit.

THE CHOKE SHOULD NOT BE USED IF THE ENGINE RETAINS ANY HEAT FROM PREVIOUS RUNNING WITHOUT FIRST ATTEMPTING TO START THE ENGINE WITH ITS NORMAL FUEL MIXTURE. IT SHOULD BE UNNECESSARY TO USE IT AT ALL DURING THE WARM WEATHER

OIL PRESSURE GAUGE

This gauge on the instrument panel is an indicator only and merely shows whether or not the oil pump is working. The amount of pressure shown on the oil pressure gauge does not necessarily tell anything about the condition, or the amount of oil in the crankcase.

If the gauge does not register pressure, when the engine is running, stop the engine immediately and determine the cause

AMMETER

This instrument registers the flow of all current to or from the battery, except that taken by the starting motor. The ammeter reading is an indication of whether the battery is receiving its proper charging current from the generator.

GASOLINE GAUGE

Your car is equipped with an electrically operated gasoline gauge which increases motoring convenience and safety, by placing accurate indication of the fuel supply directly before the driver at all times when the ignition switch is turned on The dial of the gauge is illuminated by a concealed bulb to facilitate night reading

LIGHTING CONTROL

The headlamps, parking lights, and tail lamp are controlled by a single switch which is operated by a button at the upper left-hand corner of the instrument group. When this button is pulled half-way out the parking lights and tail lamp are lighted,

When it is pulled out all of the way, the headlamps and tail lamp are lighted.

In addition to the switch control, the direction of the headlamp beam may be varied by pressure on the foot switch at the left of the toe board. For city driving the lighting switch should be pulled out all of the way and the foot switch should be in a position which throws the light nearest the car. To throw the light farther ahead for driving on the open road, depress the foot switch again.

HORN BUTTON

The horn button is located at the center of the steering wheel.

WATER TEMPERATURE INDICATOR

The water temperature indicator located on the instrument panel functions as a thermometer, indicating the temperature of the water in the cylinder head. A metal bulb containing a highly expansive gas is inserted in the cylinder head and is connected, by a small tube, to the indicating instrument which operates on the same principle as a pressure gauge, but indicating relative temperatures of the water by gradual movement of the pointer.

STARTING AND ACCELERATOR PEDAL

Pressure of the starting and accelerator pedal engages the starter mechanism and starts the electric motor, which cranks the engine.

As soon as the engine starts, release the foot slightly, which will automatically disconnect the starting mechanism from the pedal, which is then used as an accelerator.

This starter mechanism is operated by a vacuum controlled diaphragm which connects it with the accelerator pedal when the engine is NOT operating When the engine IS operating the manifold suction moves the diaphragm, disconnecting the starter control, permitting the accelerator pedal to operate only the throttle valve in the carburetor.

CLUTCH PEDAL

By means of this control, the power required in putting the car in motion, may be gradually and smoothly transmitted to the rear wheels.

When the clutch pedal is in its normal position, the clutch is engaged and the engine is directly connected to the transmission By depressing the pedal, the clutch is released and the engine disconnected from the transmission gears, permitting the shifting of the transmission gears.

GEAR SHIFT LEVER

By use of the gear shift lever, the transmission gears are correctly meshed to transmit power to the rear wheels in proper proportion to the work necessary under various driving conditions

There are three gears or speeds forward and one reverse Of the forward gears, first or low gear, provides the greatest amount of power with corresponding low car speeds, and is therefore the correct gear for heavy pulls, as when putting the car in motion pulling up a very steep grade, or on the level through heavy sand or mud Third or high speed gear provides the high speed driving range. Second or intermediate gear, as its name implies provides the intermediate driving range

BRAKE PEDAL

Depressing this pedal applies the four-wheel service brakes used for controlling the momentum of the car when stopping

HAND BRAKE LEVER

The hand brake lever is interconnected with the front and rear service brakes and is used for holding the car when parked or when getting under way on a steep grade.

CHAPTER III

CARE AND MAINTENANCE

ENGINE

The engine used in this Chevrolet model is a six-cylinder, four cycle, valve in head type, having a combination of force feed and splash oiling system. The cylinder firing order is No. 1, No 5, No. 3, No. 6, No. 2, No 4

Although all of the moving parts of the engine are protected from dust and grit by suitable covers, foreign substance may creep inside, if it is not cleaned occasionally This slight inconvenience will be more than offset by the saving in repair bills at some later date.

ADJUSTING VALVES

The space between the rocker arm and the valve stem (Fig. 3) should be .006" on the intake valves and .013" on the exhaust valves. The adjustment should be made when the engine is hot.

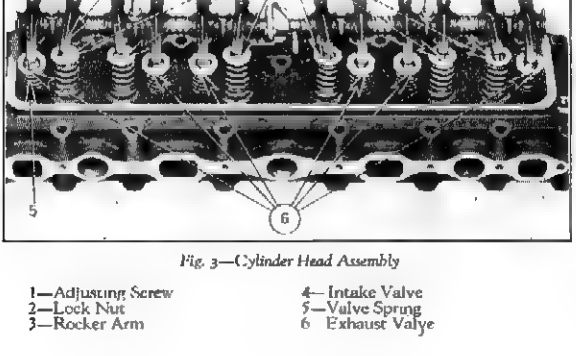


Fig. 3—Cylinder Head Assembly

1—Adjusting Screw
2—Lock Nut
3—Rocker Arm
4—Intake Valve
5—Valve Spring
6 Exhaust Valve

so that the valve stems and push rods will be expanded to the limit. If the space is greater than this, loosen the lock nut on the rocker arm adjusting screw and turn the screw slightly with a screw driver until the proper clearance is obtained, then tighten the lock nut so that the adjustment will not come loose. Check the clearance after the lock nut is tightened, to make sure that the adjustment is correct.

CAUTION: The necessity for valve adjustment will show itself first by excessive clicking of valve lifters, and second, by poor running of engine. It is not necessary to make alterations under any other conditions.

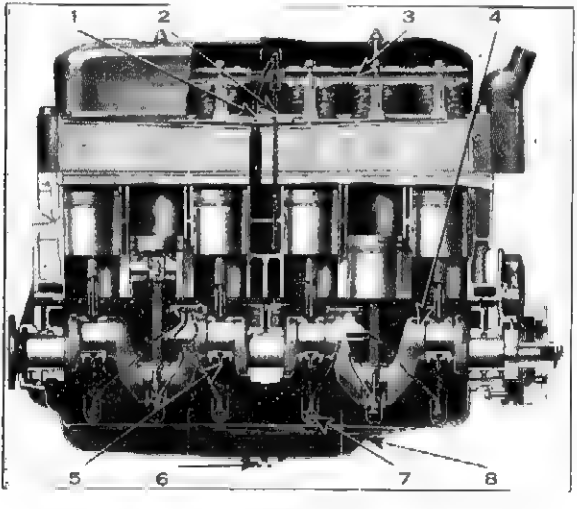


Fig. —Engine Oiling System

1—Oil Return Pipe
2—Oil Delivery Pipe
3—Rocker Arm Shaft
4—Crankshaft
5—Connecting Rod Dipper
6—Oil Pan Drain Plug
7—Connecting Rod Oil Trough
8—Oil Pan

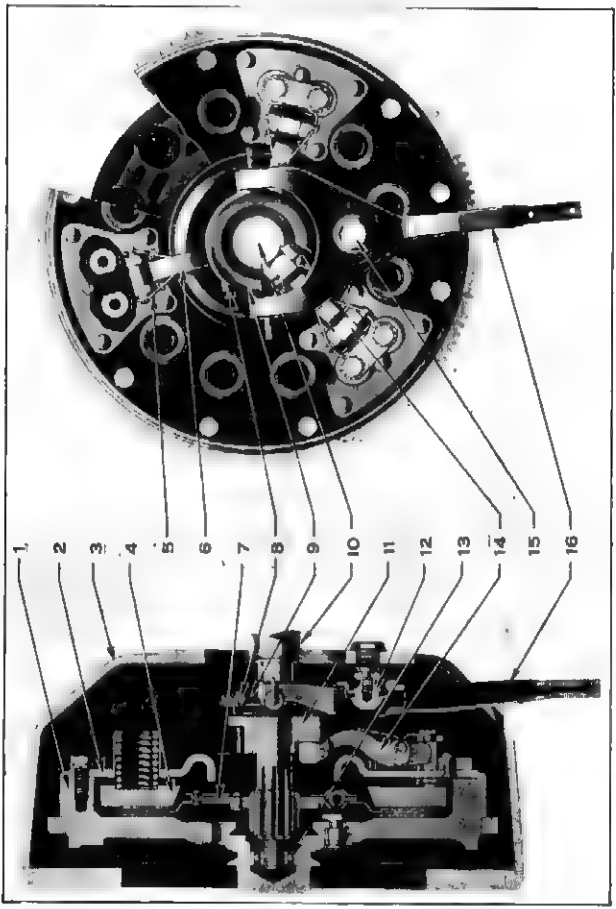


Fig. 5—Clutch Assembly

OILING SYSTEM

In the Chevrolet oiling system the vane type oil pump (driven indirectly by the camshaft), is placed inside the crankcase.

The oil pump sucks the oil, through a screen, from the bottom of the oil pan and delivers it, under pressure, to the center main and center camshaft bearings and through distributing pipes to the front and rear main and camshaft bearings. See Fig. 4.

The pump also delivers oil to the oil distributor, on the left side of the engine, where the flow is divided and passes through pipes to the oil troughs, located under each connecting rod bearing.

When the engine is operating, the oil dippers on the ends of the connecting rods lift the oil and a portion of it is forced up into the connecting rod bearings. The rest is broken up into a fine spray or oil mist, which penetrates to all moving parts of the engine, lubricates them and in turn drains back to the oil reservoir, where it is picked up by the pump and used again.

From the high pressure side of the oil distributor a connection leads to the pressure gauge on the instrument panel, to indicate oil pressure at this point.

LUBRICATION OF VALVE MECHANISM

From the low pressure side of the oil distributor, a pipe carries oil into the hollow rocker arm shafts. Provision is made to feed just sufficient oil through a metering groove in the rocker arm bushing to properly lubricate the valve stems and upper end of the push rod.

A hole is drilled at the top of the rocker arm hub and valve stems, through which oil is fed to the push rod socket. The rapid action of the rocker arm adjusting screw in the oil-filled socket throws a mist of oil over all of the valve mechanism including the

FIG. 5—Clutch Assembly

1—Flywheel
2—Clutch Cover
3—Flywheel Housing
4—Clutch Pressure Plate
5—Lever Springs
6—Lever
7—Clutch Disc
8—Release Bearing Oiler
9—Release Bearing
10—Main Drive Gear Shaft
11—Release Sleeve
12—Fork Ball Joint
13—Main Drive Gear Pilot Bearing
14—Release Levers
15—Ball Joint Nut
16—Clutch Fork

valve stems. The excess oil which may overflow from the rocker shaft is returned to the crankcase through a telescoping tube

CLUTCH

The clutch, used on the Chevrolet car is a standard single plate dry disc type, consisting of a pressure plate assembly having nine pressure springs, three release levers and a clutch disc mounted on a drop-forged splined hub See Fig. 5. The clutch disc is of the torque spring type with facings riveted to each side of it

The clutch disc must be operated dry. A hole is located in the bottom of the clutch housing underpan to permit any small leakage of oil from the rear crankshaft bearing, clutch throwout bearing, or transmission to drain off.

The clutch fork is mounted on a swivel The swivel is screwed in a shoulder stud in the clutch housing. By means of this mounting, alignment of the clutch release bearing is maintained because the bearing is free to find its own point of alignment without binding.

The release bearing is made of a carbon graphite composition shrunk into a trunnion collar mounted in the fork. This collar has an oil reservoir, which is back of the bearing, with an oiler on the top. This allows the throwout bearing collar to be filled with oil, which in turn seeps into the bearing

There is only one adjustment necessary on the clutch and that is to keep the clutch pedal in its proper position, so that it does not touch the floor board at any time.

If, at any time, the clutch pedal is more than ½" away from the end of the slot in the floor board, when the clutch is fully engaged, the clutch pedal adjusting bolt should be turned to the left until the proper clearance is obtained

SYNCRO-MESH TRANSMISSION

The Syncro-Mesh transmission was designed and built to embody all the necessary fundamentals for successful Syncro-Mesh operation as developed and manufactured by the General Motors Corporation for the past number of years

The Syncro-Mesh transmission provides easy, quiet and quick gear-shifting from first to second, second to high and high to second speeds without clutching, by merely pushing out the

clutch and pull or push the gear shift lever. No expert training is required for easy and quiet gear-shifting, the novice can shift gears as easily as the expert.

The Synchro-Mesh transmission eliminates the pause between disengaging and engaging gears necessary in other transmissions. This pause is to permit the faster turning gear to slow down so that its speed corresponds to the slower turning gear it is to engage. This is due to the difference of the speed ratios in the transmission. The synchronizing mechanism in the Chevrolet transmission automatically does this very thing, speeding up or slowing down the mating gear requiring no thought on the part of the driver.

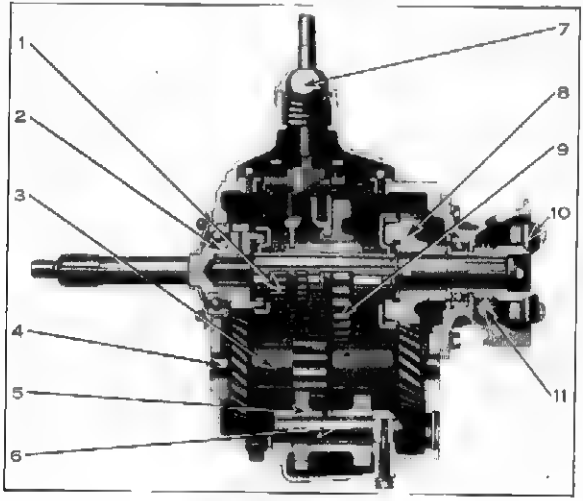


Fig. 6—Transmission Assembly

1—Sliding Clutch Sleeve
2—Main Drive Gear
3—Counter Gear
4—Countershaft
5—Idler Gear
6—Idler Gear Shaft
7—Gear Shift Lever Seat
8—Second Speed Gear
9—First Speed Gear
10—Universal Joint
11—Speedometer Gear

UNIVERSAL JOINT

Fig. 7 illustrates the universal joint used in the Chevrolet. It is directly connected to and receives its lubrication from the transmission. Additional lubrication facilities at this point are unnecessary. The speedometer is driven from a worm and drive gear mounted on the universal joint.

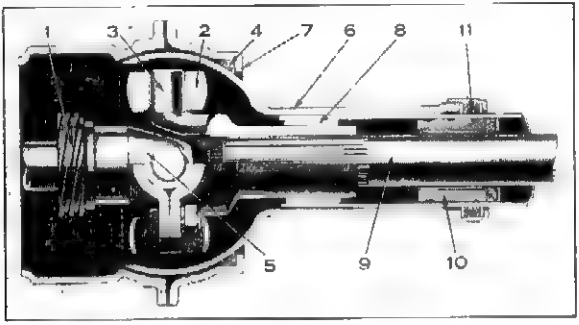


Fig. 7—Universal Joint

1—Speedometer Drive Gear
2—Trunnion Bearing
3—Rear Yoke
4—Ball Packing
5—Front Yoke
6—Ball
7—Ball Retainer
8—Front Bushing
9—Propeller Shaft
10—Rear Propeller Shaft Bushing

INDEPENDENT FRONT WHEEL SUSPENSION

Knee-action independent front wheel suspension, permits individual action of the front wheels.

This suspension in combination with the rigid "Y-K" frame construction, permits each front wheel to follow the irregularities of the road, whether they be chuck holes or raised obstructions, without imparting a like movement to the frame, body and passengers.

The design of the front wheel suspension units gives maximum protection to all working parts, including springs, bearings, shock absorbers, etc., as they are enclosed in a dirt-proof housing and work in oil.

The oil level should be maintained in the suspension units, at all times, and should be checked every 2000 miles and filled to the proper level with shock insulation fluid sold by all Chevrolet Dealers

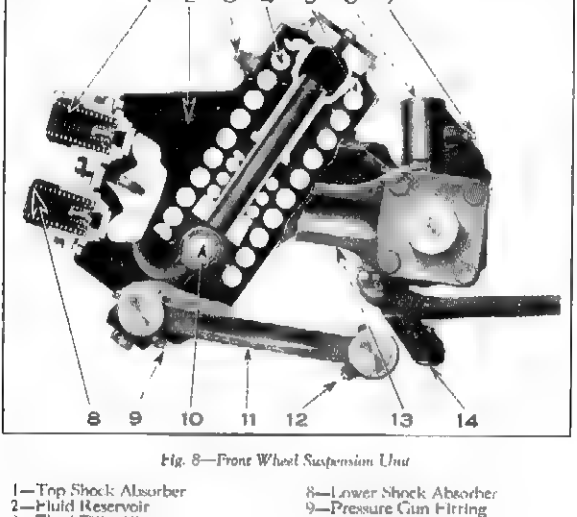


Fig. 8—Front Wheel Suspension Unit

1—Top Shock Absorber
2—Fluid Reservoir
3—Fluid Filler Plug
4—Spring
5—Fluid Level
6—King Pin Support
7—Pressure Gun Fitting
8—Lower Shock Absorber
9—Pressure Gun Fitting
10—Arm Shaft
11—Radius Rod
12—Pressure Gun Fitting
13—Wheel Spindle Arm
14—Steering and Third Arm

REAR AXLE

The rear axle used on Chevrolet passenger cars is known as a semi-floating type with a one-piece banjo-type pressed steel housing. The differential, ring gear and pinion are mounted with the carrier in a unit with the propeller shaft

Two Hyatt roller bearings support the axle shafts at their outer ends and four New Departure ball bearings support the differential and propeller shaft.

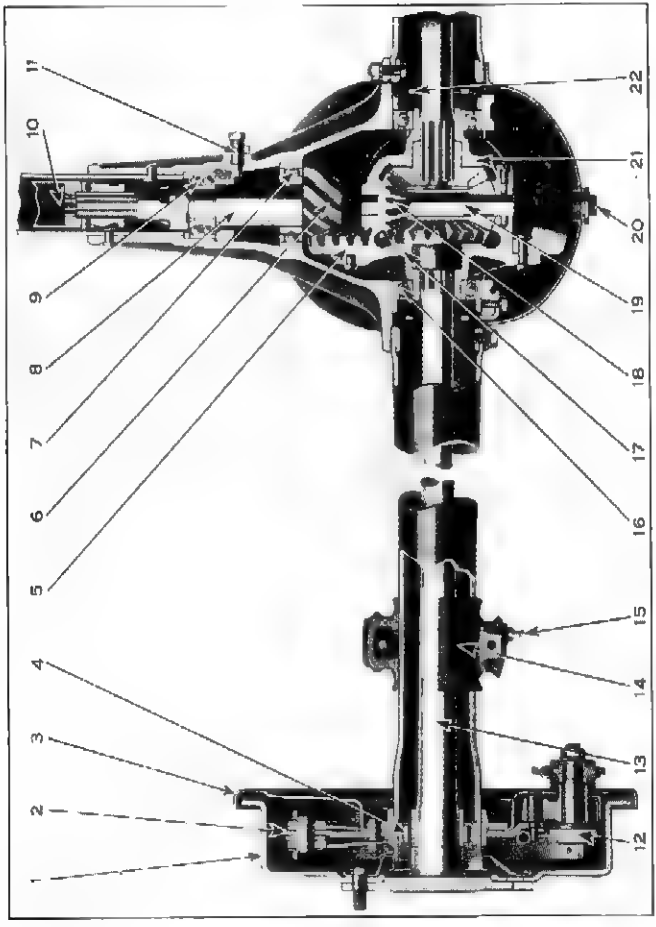


Fig. 9 Rear Axle Assembly

The axle housing cover not only protects the differential, ring gear and pinion, but it also forms a part of the oil reservoir, as well as an inspection cover. By removing this cover, the differential and bearings are open for inspection and adjustment.

The spiral bevel teeth of the ring gear and pinion produces maximum tooth bearing surface and smooth, quite operation.

A glance at the illustration, Fig. 9, shows this construction and relative position of the various parts.

BRAKES

The brakes are known as an internal expanding type, that is, the brake shoes expand on the inside of the brake drums on the slightest pressure of the brake pedal or hand brake lever

The service brakes and parking brakes consist of eight brake shoes, four on the front and four on the rear, connected by a series of brake linkage which acts not only as equalizing but proportioning medium.

These brakes have been designed and developed to give consistant and efficient service with long life under all conditions and in order to keep them so, it is advisable that you follow these suggestions:

1st.—Avoid sudden stopping unless necessary, as this puts unnecessary severe strain on the car.

2nd—Do not delay adjusting brakes too long since they are so simple and easy to adjust

3rd—Keep the clevis pins in the brake linkage oiled.

Fig. 9—Rear Axle Assembly

1—Brake Drum
2—Brake Shoes
3—Brake Flange Plate
4—Axle Shaft Bearing
5—Ring Gear
6—Drive Pinion
7 Rear Pinion Shaft Bearing
8 Pinion Shaft Spacer
9—Front Pinion Shaft Bearing
10—Propeller Shaft
11—Front Pinion Bearing Adjusting Screw
12 Brake Cam
13—Axle Shaft
14—Spring Seat
15—Pressure Gun Fitting
16—Differential Side Bearing
17 Differential Case
18 Differential Pinion Gear
19—Differential Pinion Gear Shaft
20—Oil Drain Plug
21—Differential Case
22—Differential Bearing Adjusting Nut

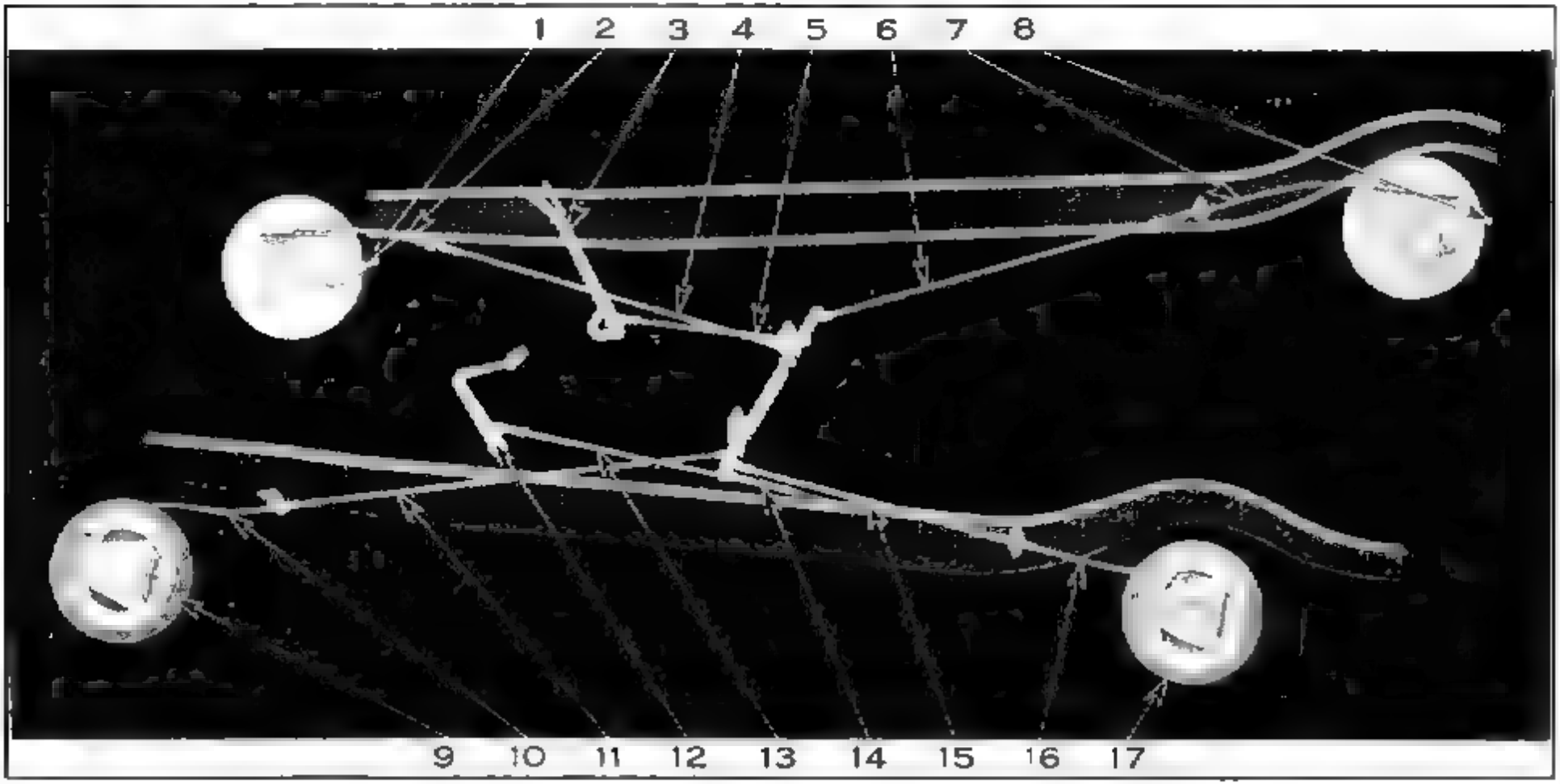


Fig. 19 Brake Linkage

1—Front Brake Adjusting Screw
2—Front Brake Cable
3—Hand Brake Lever
4—Front Brake Rod
5—Hand Brake Rod
6—Rear Brake Rod
7—Rear Brake Cable
8—Rear Brake Adjusting Screw
9—Front Brake Lever
10—Front Brake Cable
11—Front Brake Rod
12—Brake Pedal
13—Brake Pedal Rod
14—Pull Back Spring
15—Rear Brake Rod
16—Rear Brake Cable
17—Rear Brake Shoes

4th—Do not try to get the last mile out of the life of the brake linings

5th—A skillful driver never de-clutches his motor until the last moment as the compression, of the engine, on closed throttle materially helps to slow down and stabilize the car when stopping

6th—Do not reline brakes with a lining other than the Genuine Chevrolet Lining, sold by all Chevrolet Dealers, as this has been especially developed for this particular brake.

For all normal adjustments, it is only necessary to adjust the brakes shoes to compensate for wear. After 5,000 to 10,000 miles, according to the service that the brakes have been subjected to, it is desirable to re centralize the cams which operate the brake shoes. The need for this is first noticed when the brakes are applied and they feel ineffective.

RE-CENTRALIZING SERVICE BRAKES

1- Check to see that front wheel bearings are adjusted in proper tension

2—Loosen *all* centralizer clamp bolts, making sure that the centralizer is free to move by tapping lightly up and down on the adjusting lever hub nut with a hammer or wrench.

3—Give the brake pedal a hard quick push and release, then maintaining a moderate pressure on the pedal, clamp up the centralizer bolts

ADJUSTING SERVICE BRAKES

1—Jack up all four wheels.

2—Loosen check nuts on the brake cam operating levers and turn the adjusting screws to the right until the brake shoes drag very lightly on the drums, then tighten the check nuts.

3—Try brakes for equal braking, left and right, and slightly slack off the brake that pulls the harder. Road test car, apply brakes slowly to check action of brakes at light, medium and maximum pedal pressure.

STEERING GEAR ASSEMBLY

The steering mechanism used on Chevrolet cars has been designed to give the greatest ease of handling with the least amount of wear and consequent adjustment. The roller bearings above and below the steering worm insure quietness and easy steering

Go over all the connections regularly and tighten any bolts or nuts which are loose supplying the grease and oil where needed, as this is the only safe insurance against a costly accident. At the first sign of excessive wear or looseness, consult the Chevrolet Dealer

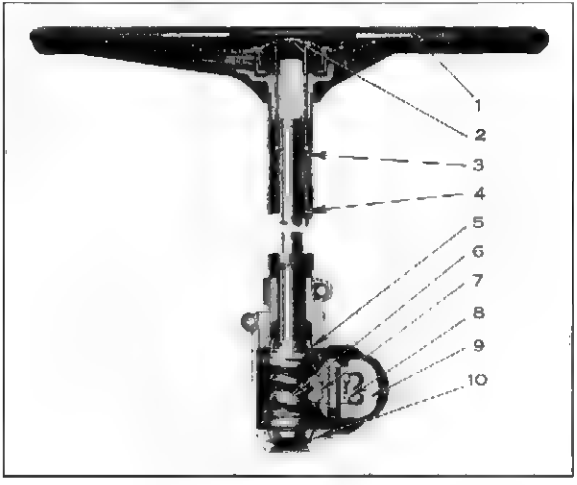


Fig. 11—Steering Gear Assembly

1—Steering Wheel
2—Horn Button
3- Horn Button Contact
4 Main Shaft
5—Top Roller Bearing
6—Worm
7—Gear
8—Gear Bearing
9—Pitman Arm Shaft
10 Bottom Roller Bearing

FUEL SYSTEM, INCLUDING GASOLINE TANK, CARBURETOR, CHOKE, FUEL PUMP AND AIR CLEANER

Gasoline sold at most filling stations is filtered It is a good plan when filling the tank from any other source to strain the gasoline before placing it in the tank, in order to remove any sediment which might otherwise clog the filter screen in the fuel pump.

In order that the gasoline will flow properly to the carburetor, there is a small hole in the top of the filler cap on the tank, so that air can enter as the quantity of gasoline in the tank is decreased It is essential that this hole be kept open.

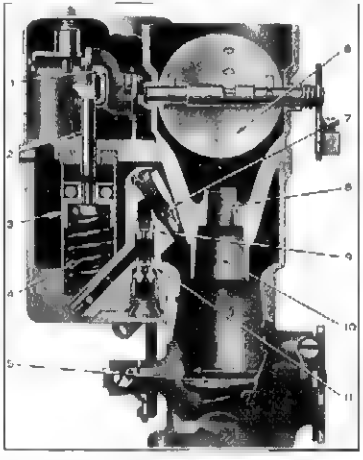


Fig. 12 Carburetor—Cross Section

1—Accelerating Pump Lever
2 Accelerating Pump Shaft
3 Accelerating Pump
4 Accelerating Pump Spring
5— Throttle Valve
6—Choke Valve
7 Pump Jet
8 —Upper Venturi with Nozzle
9 Pump Discharge Check
10—Lower Venturi
11—Pump Intake Check

CARBURETOR

The carburetor measures the fuel for the engine and automatically mixes it with the proper amount of air to form a highly combustible gas. The carburetor used on this model is known as the plain tube downdraft type Adjustment of the idle adjustment screw is the only mixture adjustment on the carburetor.

Connected with the throttle and built into the carburetor is an accelerating pump This consists of a cylinder, with a plunger containing an air bell and two gas check valves, one on the inlet and one on the outlet side The upward movement of the plunger, when the throttle is closed, draws the fuel into the bottom of the cylinder. The slightest opening of the throttle causes an immediate discharge through a jet pointing downward into the main venturi

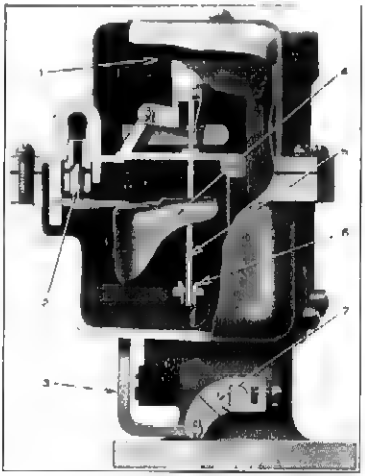


Fig. 13 Carburetor -Showing Jet and Bowl

1 Cover
2—Inlet Needle and Seat
3 Throttle Connector Rod
4 Float
5 Metering Rod
6—Metering Rod Jet
7 Throttle Shaft Arm

The starting mixture is controlled by a button on the instrument panel marked "Choke." Pulling this button out closes a butterfly valve which is hinged in the center with one-half being spring controlled. When the choke button is pulled all of the way out a trigger lock limits the movement of this spring controlled valve, admitting only the right amount of air, when the engine fires, to keep the engine running. As soon as the choke button is released slightly, the hinged half opens and acts as an air valve during the warming-up period. This prevents overloading and produces a smooth running mixture with a cold engine.

ADJUSTMENT

The carburetors have been carefully tested and adjusted to the engine before leaving the factory. Too often adjustments are made to the carburetor, when in reality, something else is causing uneven running or the engine has not thoroughly warmed up.

There are two adjustments on the carburetor, one for idling mixture and the other for idling speed.

To adjust the idling mixture proceed as follows:

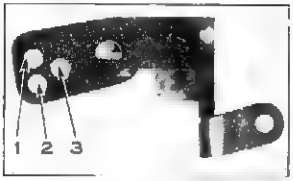
Open the idle adjusting screw from ½ to 1 turn open. Let engine idle. Try turning screw both ways from this position until the best setting is made.

To adjust for idling speed proceed as follows:

With the hand throttle on the instrument panel closed, set the throttle lever stop screw so that the motor runs at approximately 350 revolutions per minute. If the engine runs too fast, back the screw out. If too slow, turn in until the proper speed is obtained Best results in both performance and economy are obtained with the mixture set as lean as possible.

ACCELERATING PUMP

An accelerating pump is required to insure positive, smooth acceleration. The Chevrolet pump arm has three holes for the connector link, giving short, medium and long strokes. The medium stroke is correct for ordinary temperatures and standard gasoline. Short stroke should be used in extremely hot climates,



1—Long Stroke
2 Medium Stroke
3—Short Stroke

Fig. 14—Accelerating Pump Lever

at high altitudes or with high test fuel The long stroke is for use in extremely cold climates

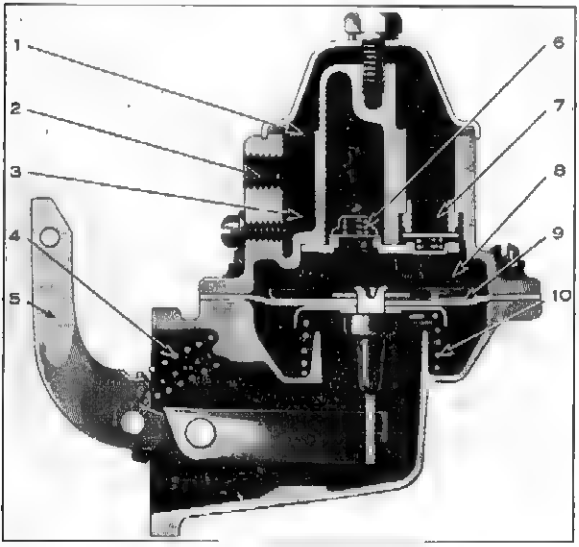


Fig. 15 Fuel Pump

1—Strainer
2—To Carburetor
3 Sediment Chamber
4 Rocker Arm Spring
5—Rocker Arm
6—Outlet Valve
7—Inlet Valve
8—Pump Chamber
9—Diaphragm
10—Diaphragm Spring

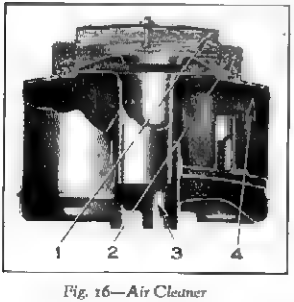
To set the pump arm it is necessary to remove the cover from the top of the accelerating pump.

FUEL PUMP

The fuel pump (Fig 15) is of the diaphragm type and is attached to the crankcase and is operated from an eccentric on the camshaft.

The diaphragm is composed of several layers of specially treated flexible cloth which is absolutely impervious to gasoline and benzol This cloth material is held between two metal discs and is pushed upward by a pump spring. This diaphragm, in its upward motion, almost fills the pump chamber so that, in its downward movement, a very high vacuum is obtained, thus assuring high pumping capacity, even at low speeds.

This movement is controlled by linkage because, when the diaphragm is in the depressed position, due to sufficient fuel in the carburetor, the up and down movement of the fuel pump link ceases and the rocker arm spring keeps the rocker arm in contact with the eccentric on the camshaft.



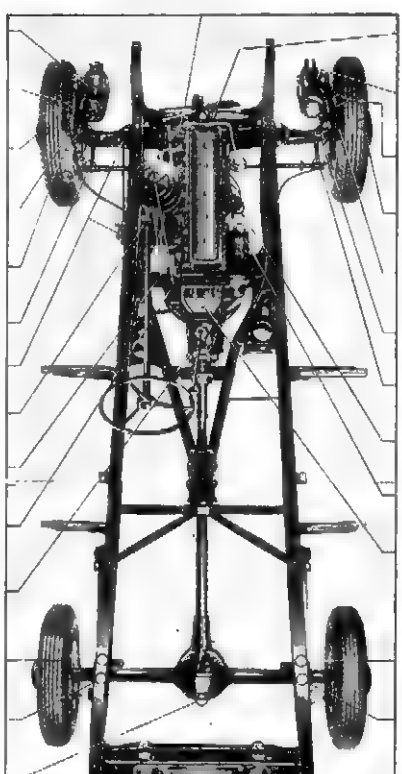
1—Felt Pad
2—Copper Mesh
3—Air Intake
4—Silencing Chamber

Fig. 16—Air Cleaner

AIR CLEANER

The air cleaner is a combination air cleaner and flame arrester All air, which enters the carburetor, must pass through a filter element, made of fine copper mesh, finely woven into a disc one

LUBRICATION CHART 1934 CHEVROLET



GENERATOR—TWO OR THREE DROPS OF LIGHT OIL

FRONT SPRING UNIT—KEEP FILLED WITH GENUINE SHOCK INSULATION FLUID

FRONT SPRING UNIT RADIUS ROD LUBRICATE WITH CHASSIS LUBRICANT ○

FRONT WHEEL BEARINGS—CLEAN AND PACK WITH WHEEL BEARING GREASE ●

FRONT SPRING UNIT SPINDLE BUSHING—REMOVE PLUG AND FILL WITH PETROLEUM JELLY ●

FRONT SPRING UNIT KING PIN LUBRICATE WITH CHASSIS LUBRICANT ○

FRONT WHEEL TIE ROD—LUBRICATE WITH CHASSIS LUBRICANT ○

STEERING CONNECTING ROD LUBRICATE WITH CHASSIS LUBRICANT ○

STEERING GEAR—LUBRICATE WITH CHASSIS LUBRICANT ○

ACCELERATING PUMP SHAFT REMOVE COVER AND FILL SCREW HOLE WITH GRAPHITE GREASE ⊕

AIR CLEANER—REMOVE AND CLEAN OUT WITH GASOLINE—DIP IN ENGINE OIL KEEP FELT PAD DRY ✳

TRANSMISSION SEE RECOMMENDATIONS UNDER "TRANSMISSION AND REAR AXLE LUBRICANTS"

REAR SHOCK ABSORBERS—KEEP FILLED WITH GENUINE SHOCK INSULATION FLUID

SPRING SADDLE LUBRICATE WITH CHASSIS LUBRICANT ○

DIFFERENTIAL—SEE RECOMMENDATIONS UNDER "TRANSMISSION AND REAR AXLE LUBRICANTS" ✳

SPRING SHACKLE—LUBRICATE WITH CHASSIS LUBRICANT ○

WATER PUMP—FILL AND TURN DOWN GREASE CUP—USE NO. 2½ CUP GREASE—FILL OIL CUP WITH GOOD GRADE OF ENGINE OIL ○

FRONT SPRING UNIT—KEEP FILLED WITH GENUINE SHOCK INSULATION FLUID

FRONT SPRING UNIT RADIUS ROD LUBRICATE WITH CHASSIS LUBRICANT ○

FRONT WHEEL BEARINGS CLEAN AND PACK WITH WHEEL BEARING GREASE ●

FRONT SPRING UNIT SPINDLE BUSHING—REMOVE PLUG AND FILL WITH PETROLEUM JELLY ●

FRONT SPRING UNIT KING PIN LUBRICATE WITH CHASSIS LUBRICANT ○

FRONT WHEEL TIE ROD LUBRICATE WITH CHASSIS LUBRICANT ○

DISTRIBUTOR FILL AND TURN DOWN GREASE CUP—USE NO 2½ CUP GREASE ○

STARTING MOTOR—TWO OR THREE DROPS OF LIGHT OIL ○

CLUTCH RELEASE BEARING WHEN NECESSARY FILL WITH S.A.E. 160 OIL IN SUMMER AND S.A.E. 90 OIL IN WINTER

REAR SHOCK ABSORBERS—KEEP FILLED WITH GENUINE SHOCK INSULATION FLUID

SPRING SADDLE—LUBRICATE WITH CHASSIS LUBRICANT ○

SPRING SHACKLE—LUBRICATE WITH CHASSIS LUBRICANT ○

CHECK OIL LEVEL IN ENGINE ADDING MOTOR OIL WHEN NECESSARY—SEE RECOMMENDATIONS UNDER "ENGINE LUBRICANTS"

○ LUBRICATE EVERY 1000 ✳ LUBRICATE EVERY 30 MILES ⊕ LUBRICATE EVERY 5000 MILES ● LUBRICATE EVERY 10,000 MILES

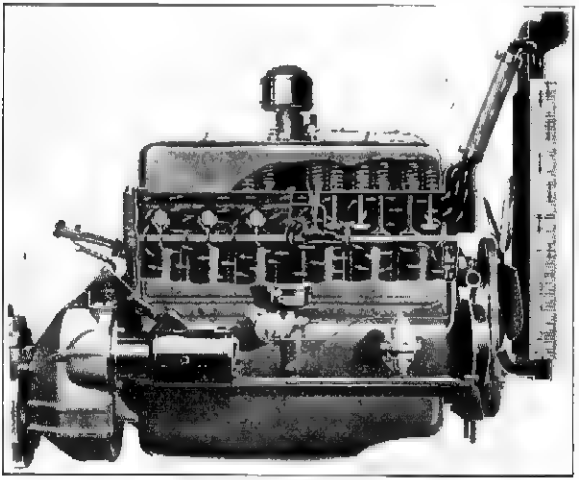
FIG. 17 Lubrication Chart

inch thick. This unit is saturated with oil. Any particles of dirt in the incoming air are caught by the film of oil on the copper mesh and are prevented from entering the carburetor

Any flame which may be caused by a backfire through the carburetor is prevented from reaching the open air by this same copper mesh unit, which functions much as a miner's lamp, preventing ignition of oil on the engine parts and resulting fires

Under ordinary conditions, where the car is driven on pavement and gravel roads, the air cleaner must be removed every 2,500 miles and the dirt that has collected on the copper mesh cleaned out This is done by removing the air cleaner from the carburetor, then removing the top cover and felt pad and slushing that part of the air cleaner that contains the copper mesh in gasoline and then dipping it in engine oil.

Under extreme conditions, or when the car is driven on gravel and dirt roads all of the time, this must be done every 1,000 miles.



Fr[illegible] Cool[illegible] System

ETHYL GASOLINE

Our experience with Ethyl gasoline for the past few years indicates that it is a satisfactory fuel for use in Chevrolet cars.

COOLING SYSTEM

The radiator at all times should be kept full of clean water It is a good plan to form the habit of inspecting and filling the radiator before the car is taken from the garage On long tours, especially when you have been traveling over hilly roads or those with a loose top surface, examine the water supply frequently Consider, always, that the proper amount of water is as important as your supply of gasoline and oil. It is well to examine the water supply every time a stop is made for oil or gasoline.

Always use clear water. If rain water can be had, use it, as less scale or deposit will result. The total capacity is 11 quarts.

Once a month it is a good plan to open the radiator drain cock, which is conveniently located on the right side at the bottom of the radiator, and let all the water and accumulated dirt run out If the water is very dirty, flush the radiator with fresh water.

Never pour cold water into the radiator or cooling system while the motor is hot, as it will crack the cylinder head.

It is not a good plan to put anti-leak compounds, corn meal, bran or other similar substances in a radiator, to stop a leak. It fouls the tubes and decreases the efficiency of the radiator. Make a permanent repair as soon as a leak is discovered.

WATER PUMP

The water pump circulates the water in the cooling system and, by the adoption of balanced impeller blades, the life of the thrust washer is lengthened and the water pump efficiency maintained.

The water pump packing, which is called the pre-formed metallic type, is assembled in the pump body in two halves, with a pressed steel spacer between them. The cavity in the spacer receives the grease from the grease cup and delivers it to both halves of the packing and the rear bushing With this type of

packing and spacer, the operation of tightening the packing nut against the packing is reduced to infrequent intervals.

When the packing nut has reached its limit of travel against the packing, new packings should be installed.

There is an oil cup, in the water pump body, just above the front water pump bushing, which should be lubricated every 1,000 miles. The oil cup should be filled with a good grade of engine oil which will allow the oil to soak into the bushing.

ANTI-FREEZING SOLUTIONS

In selecting anti freezing solutions for winter operation, the local conditions and the type of service must be considered. The following information is given to enable the individual owner to more intelligently select the anti-freezing solution best suited to meet his own conditions.

The available commercial materials for preparing anti-freezing solutions for automobile radiators are denatured alcohol, methanol (synthetic wood alcohol), distilled glycerine, and ethylene glycol.

DENATURED ALCOHOL AND METHANOL

Denatured alcohol and methanol solutions are, at present, the most generally used anti-freezing solutions. Denatured alcohol and methanol are widely distributed, afford protection against freezing, and are not injurious to the materials used in the cooling system.

There are two principal objections to denatured alcohol and methanol. These materials are lost by evaporation, especially on heavy runs, and unless the solution in the radiator is tested periodically and sufficient anti-freeze added to replace the loss by evaporation, the motor or radiator, or both, are likely to be damaged by freezing. The car finish is damaged by contact with denatured alcohol or methanol solutions or vapors, and any material accidently spilled on the finish should be flushed off immediately with a large quantity of water.

Methanol, for anti-freeze purposes, is sold in the United States in the correct concentration to give the same protection against freezing as denatured alcohol. The following table may be used for both denatured alcohol and methanol:

Directions for preparing Anti Freezing solutions from Denatured Alcohol 94% (188° proof) and Methanol (Anti-Freeze Grade):

Freezing Point	Proportion of Denatured Alcohol or Methanol and water to make one gallon of Anti-Freezing Solution
+10°F	2½ pints denatured alcohol or methanol 5½ pints water
0°F	3 pints denatured alcohol or methanol 5 pints water
—10°F	3½ pints denatured alcohol or methanol 4½ pints water
—20°F	4 pints denatured alcohol or methanol 4 pints water
—30°F	5 pints denatured alcohol or methanol 3 pints water

GLYCERINE AND ETHYLENE GLYCOL

Distilled glycerine and ethylene glycol solutions are, in first cost, more expensive than alcohol but, as they are not lost by evaporation, only water need be added to replace evaporation losses. Any solution lost mechanically, such as leakage, foaming, etc., must be replaced by additional new anti-freezing solution. These solutions, under ordinary conditions, are not injurious to the car finish.

The principal objections to glycerine and ethylene glycol are the tendency of these solutions to loosen the scale and iron rust which forms in the water passages of the cylinder block and head, and the difficulty of securing and maintaining tight leakproof connections. It is absolutely necessary to thoroughly clean and flush the entire cooling system before glycerine or ethylene glycol is used. It is also necessary to tighten or replace the cylinder head gaskets, hose connections and pump packing. The cylinder head gaskets must be kept tight to prevent the solution from leaking into the crankcase where it might cause gumming and sticking of the moving parts. The pump packing must be kept tight to pre-

vent air from being drawn into the cooling system, in order to avoid foaming and other difficulties which may result when air is present.

Ethylene glycol (Prestone) sold in the United States for anti-freezing purposes and radiator glycerine, produced under the formula approved by the Glycerine Producer's Association, are chemically treated to overcome the principal difficulties mentioned in the above paragraph, and under normal operating conditions with tight hose connections and cylinder head gaskets, should be satisfactory for use in the cooling system.

Radiator glycerine or ethylene glycol should be used in accordance with the instructions, and in proportions recommended by the anti-freeze manufacturer.

TESTING SOLUTIONS

In using the hydrometer to determine the temperature at which the solution will freeze, the test must be made at the temperature at which the hydrometer is calibrated. If the solution is warmer or colder, it must be brought to this temperature or large errors may result In some cases these errors may be as large as 30 degrees Fahrenheit Freezing point hydrometers are not interchangeable, a different float is required for denatured alcohol, methanol, glycerine and ethylene glycol.

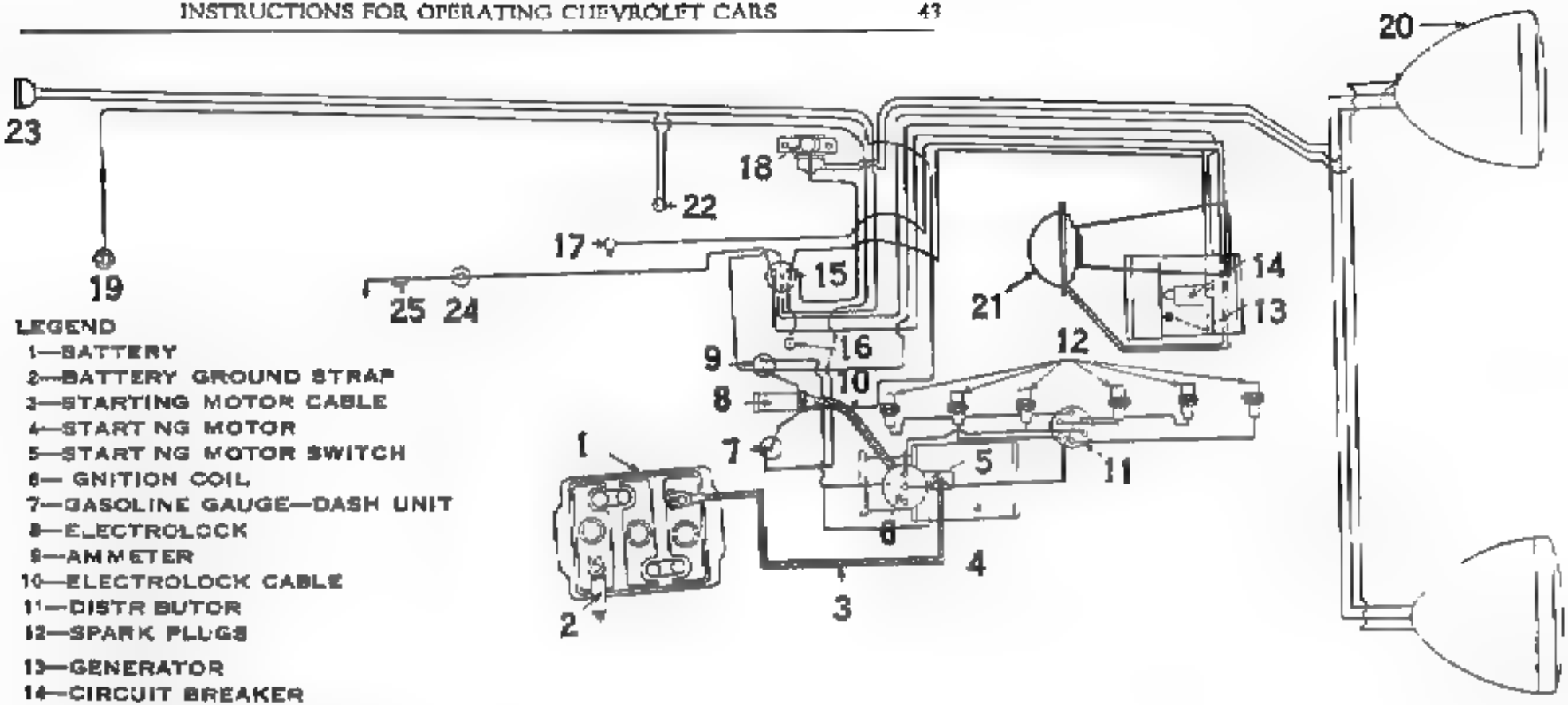
OTHER ANTI-FREEZING SOLUTIONS

Salt solutions, such as calcium or magnesium chloride, sodium silicate, etc., honey, glucose and sugar solutions and oils are not satisfactory for use in automobile radiators.

ELECTRICAL SYSTEM

The electrical system used on Chevrolet cars is called the double unit system with ground return and consists of the following units: generator, starting motor, distributor, ignition coil, wiring harness, storage battery, circuit breaker, ammeter, gasoline gauge, horn, ignition lock, lighting and foot control switches and lamps.

Each one of these units is self-contained and requires very little attention from the owner. There may be times, however,



LEGEND

1—BATTERY
2—BATTERY GROUND STRAP
3—STARTING MOTOR CABLE
4—START NG MOTOR
5—START NG MOTOR SWITCH
6— GNITION COIL
7—GASOLINE GAUGE—DASH UNIT
8—ELECTROLOCK
9—AMMETER
10—ELECTROLOCK CABLE
11—DISTR BUTOR
12—SPARK PLUGS
13—GENERATOR
14—CIRCUIT BREAKER
15—LIGHTING SWITCH
16—INSTRUMENT PANEL LIGHT
17 –HORN BUTTON
18—HEADLIGHT CONTROL SWITCH
19—GASOLINE GAUGE—TANK UNIT
20—HEADLAMP
21—HORN
22—STOP LAMP SWITCH
23—TA L AND STOP LAMP
24—DOME LAMP
25—DOME LAMP SWITCH

Fig. 19—Lighting Circuit Coupes

when expert advice is required When this is necessary, consult your Chevrolet Dealer.

GENERATOR

The construction of the generator is as simple as such a piece of electrical equipment can be made and, beyond a few drops of oil every 1000 miles, requires no special attention.

The generator and connections should be examined occasionally to see that all are tight. If trouble in the generator is suspected or if the ammeter does not show a proper charging rate at ten or twelve miles an hour, the car should be taken to the Chevrolet Dealer or Service Station for examination and possible necessary repair.

STARTING MOTOR

The starting motor is mounted on the clutch housing, having a pinion which automatically engages the flywheel when the accelerator pedal is depressed.

As soon as the engine starts, release the foot slightly, which will automatically disconnect the starting mechanism from the pedal, which is then used as an accelerator.

FAN AND GENERATOR BELT ADJUSTMENT

The fan and generator belt is so designed that very little adjustment is required.

The belt should not be tight, only having sufficient tension to keep it from being thrown off the pulleys when the motor is run at a high speed.

By referring to Fig 20, the method of adjusting the belt will be made clear. All that is necessary to do when the belt needs adjustment is to loosen the clamp bolt and pull the generator outward and away from the motor, tightening clamp bolt securely.

TO REPLACE FAN AND GENERATOR BELT

Loosen generator adjusting nut (Fig. 20) and move generator toward the motor as far as it will go. Then place the belt over the

pulleys; then pull the generator outward and away from the motor and tighten the adjusting nut. Do not run the motor with the fan and generator belt too tight. See that it has a small amount of "slack."

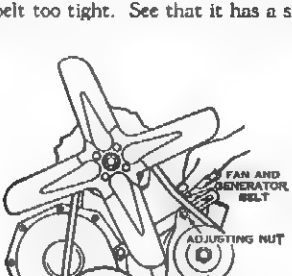


Fig. 20—Fan Belt Adjustment

IGNITION

The engine derives its power from the explosion and expansion of compressed gas in the combustion chambers, the expansion driving the pistons down, which produces power

These charges of gas are ignited by an electric spark made in the combustion chamber.

The ignition equipment used on Chevrolet cars is designed to give an even, hot spark at all times, regardless of engine speed. It is therefore possible to run your car at slow speeds with an even flow of power and also, to accelerate without stalling.

SPARK PLUGS

The spark plugs in the Chevrolet engine have been designed and made expressly for this engine by the AC Spark Plug Company

Spark plugs will not deliver their maximum spark unless the sparking points are properly spaced and the spark gap of these plugs should be set at .032 inches.

Cleaning the sparking points of AC plugs should be done with emery cloth.

The correct AC spark plug for Chevrolet cars is AC, Type K-10- and can be had at all Chevrolet Service Stations.

To clean carbon from the porcelain, proceed in the following manner: Fill the lower part of the plug with alcohol, or any liquid metal polish, and allow to stand for a few seconds; take a piece of wire covered with one thickness of cloth and rub the carbon from the porcelain, so as not to affect the glaze; then wipe clean and dry thoroughly before replacing in the engine.

Spark plugs should be changed every 10,000 miles, as they deteriorate. New spark plugs mean quick starting, increased power, smoother running engine and less use of choke, resulting in more economical operation of the car.

DISTRIBUTOR

The distributor, is the automatic vacuum type, which means that the spark is operated automatically by vacuum from the intake manifold and weights in the distributor body. The condenser is mounted in the distributor

The distributor requires no special attention, except turning down the grease cup one-quarter turn every 1000 miles and occasionally examining the spring contact point on the top of the distributor arm. This spring makes contact with the center point in the distributor head.

LIGHTING SYSTEM

The lighting system used is the single wire with ground return and includes headlamps, instrument panel light and tail light.

The lighting system is controlled from the lighting switch on the instrument panel

The lamps used on Chevrolet cars embody the depressible beam and fixed focus feature – i. e., the 32-21-candle power bulbs are provided with two separate filaments, one being on the exact center of the reflector and the other filament slightly above the center of the reflector.

The headlamps are properly aimed at the factory and re-aiming should not be necessary, unless the adjustment of the headlamp support bolt nut has been disturbed or a burned out bulb has been replaced with a new one

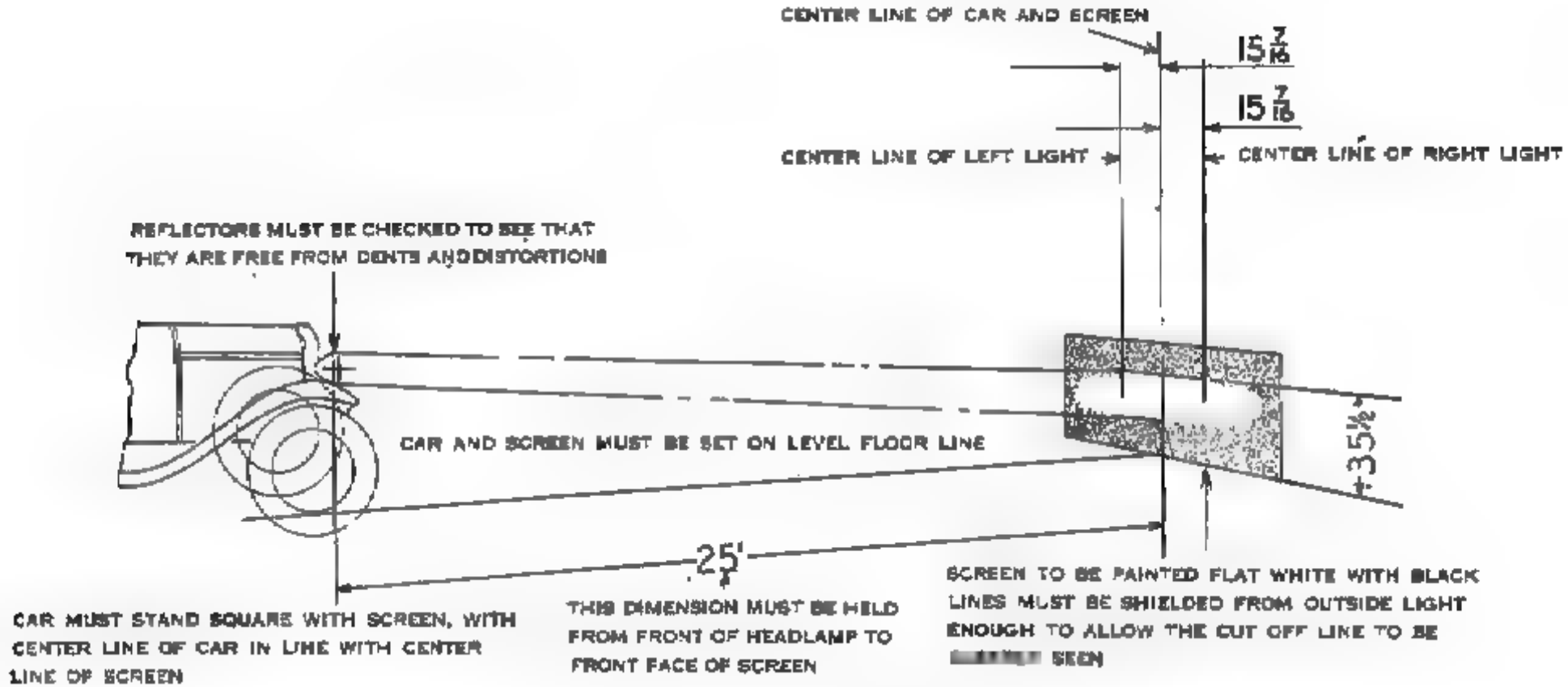


Fig. 22—Headlamp Aiming Chart

The operation of the depressible beam is effected by means of a foot switch located on the toe board riser, close to the clutch pedal

The specially designed lens is made up of a series of prisms which effectively "bend" the beams of light, to obtain the desired light pattern. This lens is used in connection with a special reflector.

Proper headlamp adjustment may be obtained by following the instructions outlined in Fig. 22 The chart is self explanatory and no further comments are necessary.

Fig. 21
Headlamp Bulb

All Chevrolet cars are equipped with a combination stop and tail lamp. The stop and tail lamp is built as a unit containing two single contact six-volt, three candle power bulbs.

When the tail lamp is on and the stop lamp is off, the upper part of the lamp is dark, but as soon as the brake pedal is pressed forward slightly, the upper part of the stop lamp is illuminated and remains bright until the brake pressure is released.

The switch operating lever should be adjusted so that switch will make contact just as the brake begins to engage

CARE OF BATTERY

This car is equipped with a 15 plate Genuine Chevrolet battery.

When a new car is purchased, the owner should consult with his Dealer regarding the battery registration, inspection and service plan.

The specific gravity of a fully charged battery is between 1.275 and 1.300. If successive readings show lower values (for example—1.265 and 1.250) this indicates that the battery is gradually becoming discharged. The generator, in this case, should be readjusted to deliver more current. Serious injury will result to the battery if the battery is not kept charged In taking the readings, care should be exercised to return the electrolyte from the hydrometer syringe to the same battery cell from which it was taken

Keep all cells filled with distilled water, to a level of ½ inch above the top of the plates. In warm weather, it makes no difference when water is added but in freezing weather, it should be added just before using the car. The reason is that water will remain on top of the solution until it is mixed with it, by action of the battery. If not mixed with the solution, it would freeze almost as quickly as outside of the battery. Water will be required more frequently in summer than in winter. It is a good plan to add water at least once a week in summer and every two weeks in winter. When long daylight runs are made, water must be added still more frequently.

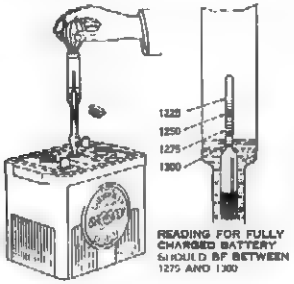


Fig. 23—Storage Battery

Electrolyte (sulphuric acid and water) attacks most all materials except rubber. Therefore, if this acid is accidentally spilled upon fabrics or seat cushions, ordinary household ammonia or common baking soda and water, if applied immediately, will counteract the effect.

A discharged battery will freeze at a little below the freezing point.

A fully charged battery will not freeze, even at temperatures as low as 30° below zero, therefore, keep the battery fully charged.

CHAPTER IV

GENERAL LUBRICATION

YOUR CHEVROLET DEALER IS EQUIPPED TO RENDER COMPLETE LUBRICATION SERVICE. WE RECOMMEND THAT YOU TAKE ADVANTAGE OF HIS SPECIALIZED EQUIPMENT AND TRAINED MEN WHEN IN NEED OF THIS TYPE OF SERVICE.

OILS AND GREASES ARE MUCH CHEAPER THAN REPAIR BILLS AND SHOULD BE APPLIED REGULARLY IF YOU ARE TO SECURE A MAXIMUM OF USEFUL SERVICE FROM YOUR CAR. IT IS CONSEQUENTLY IMPORTANT THAT THE PROPER GRADE OF LUBRICANT, AS NOTED IN THE FOLLOWING PARAGRAPHS, BE USED.

The selection of lubricants should be one of the first concerns of the owner, as the life of the automobile is to a great extent, dependent upon the rapidity at which moving parts become worn. The minimum wear can be obtained only through the use of the correct lubricants properly applied.

The determining factor of correct lubrication is the ability of the oil or lubricant used to maintain an unbroken oil film on the surfaces of the moving parts under all conditions of operations.

The correct grade of oil required to maintain an oil film is dependent upon various factors, such as, type of lubrication system used, bearing materials, bearing pressure and speeds, also methods by which lubricant is carried to the bearings. IT IS ALSO DEPENDENT UPON THE VISCOSITY OR FLUIDITY OF THE OIL.

S. A. E. VISCOSITY NUMBERS

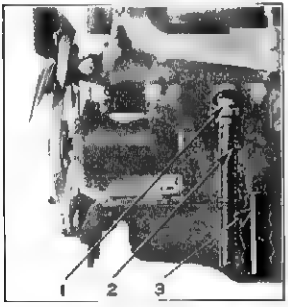
The viscosity of a lubricant is simply a measure of its body or fluidity. The S. A. E. viscosity numbers constitute a classification of lubricants in terms of viscosity, or fluidity, but without reference to any other characteristics or properties.

THE REFINER OR MARKETER SUPPLYING THE OIL IS RESPONSIBLE FOR THE QUALITY OF ITS PRODUCT. THEIR REPUTATION IS THE CAR OWNERS' BEST INDICATION OF QUALITY.

It is a well-known fact that oils do not flow as readily at low temperatures as they do at high temperatures and consequently it is rarely possible to use the same lubricant in cold weather as in warm or hot weather. In extremely cold weather if oils of the proper S. A. E. viscosity number, or fluidity, cannot be obtained it will be found necessary to thin the oil.

The amount that the lubricant should be thinned depends not only upon the atmospheric temperatures at which the car is operated, but also upon the viscosity, or fluidity, of the lubricant which is used.

The S. A. E. viscosity numbers have been adopted by practically all oil companies and no difficulty should be experienced in obtaining the proper grade of lubricant to meet seasonal requirements.



1—Oil Filler Cap
2—Oil Filler Tube
3—Oil Gauge Rod

Fig. 24—Oil Gauge and Filler Pipe

ENGINE LUBRICATION

Oil is carried in a reservoir located at the bottom of the crankcase and is filled through a filler tube on the left side of the engine, just back of the generator. Figure 24.

Fill the oil reservoir to the proper level with a well refined oil of the proper viscosity. We do not recommend the use of so-called re-refined oils, as we find that unless extreme care is used in the refining process, they are wholly unsuited for use in Chevrolet engines.

Good oil is cheaper than repair bills, therefore, frequently observe the height of the oil level in the reservoir and refill when examination proves the necessity.

It is important that not over 5 quarts of oil be used in a refilling of the crankcase.

Increase in speed will result in the increase of oil consumption.

ENGINE OIL—NEW CAR

For the First 500 Miles

Under no circumstances should an oil, heavier in body than 20-W, with a zero pour test, be used in the engines of new cars during the first 500 miles.

It is good insurance to drain the crankcase—when hot—after the first 500 miles and refill with 5 quarts of oil.

ENGINE OIL—SUMMER

An oil having a body of 20-W oil is preferred. Do not use an oil heavier than S. A. E. No. 30.

After First 2000 Miles

An oil having a body of S. A. E. No. 30 may be used.

ENGINE OIL—WINTER

All oils become more viscous and do not flow as readily at low temperatures as they do at high temperatures. If the oil becomes too thick or high in viscosity at low temperatures, it will be difficult or impossible to start the engine. If the engine is started, the oil may be too thick or high in viscosity to flow to the points requiring lubrication, and may result in "burned out" bearings.

When it is expected that the minimum temperature at which the engine will be started will be between 32 degrees F. and zero degrees F., an oil having the body of 20-W, and a zero pour test, is recommended. For temperatures between zero degrees F. and 15 degrees below zero, an oil having the body of 10-W, with a

sub-zero (below zero) pour test, is recommended For temperatures lower than 15 degrees F below zero, 10-W oil should be diluted with 10% kerosene.

ENGINE OIL SUMMARY

For convenience, the above recommendations are summarized in the following table:

TYPE OF SERVICE	RECOMMENDED MOTOR OIL
NEW CARS	
First 500 miles	Not heavier than 20-W with a zero pour test.
SUMMER	
After first 500 miles	20-W oil preferred—do not use oil heavier than S. A. E. No. 30
After first 2000 miles	S A. E. No. 30 oil.
WINTER	
32 degrees F down to zero degrees F.	20-W with a zero pour test.
0 (zero) degrees F. down to 15 degrees F. below zero.	10-W with a sub-zero (below zero) pour test.
Under 15 degrees F. below zero.	10-W with a sub-zero (below zero) pour test plus 10% kerosene.

The use of light, or low viscosity, oils during the fall, winter and spring months is strongly recommended to the car owner

Although a 20-W oil is recommended for use in the engine for temperatures ranging from 32 degrees F. above zero down to zero, it may be found desirable, from the standpoint of easy starting, to use a 10-W oil when temperatures are in the lower half of this range for protracted periods.

During the late fall and early spring months, temperatures may range from 50 degrees F. to 32 degrees F. above zero, or lower, for protracted periods. It may be found desirable to use a 20-W oil instead of an S. A. E No. 30 oil to eliminate difficulty in starting during these months.

Of more importance is the fact that the use of the lighter oils will insure the flow of the oil, in a minimum of time, to those points requiring lubrication and thus prevent the "burning out" of bearings.

A complete change of motor oil is required more frequently in winter than in summer, on account of the necessity of using the choke during the winter months. The excessive use of the choke causes crankcase dilution.

The frequency with which the oil should be changed is also governed by the mechanical condition of the car and on how carefully you, as a driver, handle it and care for it

CRANKCASE DILUTION

A phase of engine oil deterioration, probably the most serious of all, is that of crankcase dilution.

By crankcase dilution, we mean a thinning of the oil on account of certain portions of the gasoline or fuel leaking by the pistons and rings and mixing with the oil. This condition will be encountered in all classes of cars and engines, regardless of make or model. It is always present in a greater or less degree and must be combatted continually

Careful attention to a few comparatively simple precautions will minimize it and avert real damage.

The causes of crankcase dilution in most cases can be traced directly to the character of the fuel used. Practically all engine fuels today contain portions which are slow burning and hard to ignite. The thinning of the engine oil is due to unburned fuel vapor which forces or works its way past the pistons and rings and in coming in contact with the cool walls in the crankcase, condenses and is mixed with the oil, thus reducing the "body" of the oil and impairing its lubricating qualities

All engine oils are subject to this dilution

MECHANICAL CAUSES OF DILUTION

Dilution may be caused by such faults, mechanically, as scored cylinders, poor ring fit, "sloppy" or loose pistons and faulty valves,

Poor ignition, due to any of the following conditions, will also increase dilution: dead or fouled spark plugs, incorrect timing, faulty coil, distributor, weak spark or leaky gaskets.

Common causes of incomplete combustion of the fuel are: over-rich mixture (caused by improper carburetor adjustment), restricted air intake to carburetor; wrong jet or nozzle in carburetor; or air leaks

WATER IN CRANKCASE

Serious lubrication troubles may result in cold weather by an accumulation of water in the oil reservoir. This condition is as a rule little understood by the car owner. To demonstrate the chief cause of water in the oil reservoir, hold a piece of cold metal near the end of the exhaust pipe of the engine and note the rapid condensation and collection of drops of water on it. The exhaust gases are charged with water vapor and the moment these gases strike a cold surface, will condense, forming drops of water.

On account of a certain amount of these gases passing the pistons and rings, even under the most favorable conditions, we will have the formation of water in the oil reservoir, in a greater or less degree, until the engine becomes warm. When the engine becomes thoroughly warm, the crankcase will no longer act as a condenser and all of these gases will pass out through the crankcase ventilator system.

Short runs in cold weather, such as city driving, will aggravate this condition.

CORROSION

Practically all present-day engine fuel contains small amounts of sulphur which, in the state in which it is found, are harmless; but this sulphur on burning, forms certain gases, a small portion of which is likely to leak past the pistons and rings and re-acting with water, when present in the crankcase, form very corrosive acids. The more sulphur in the fuel, the greater the danger from this type of corrosion This is a condition which we cannot wholly avoid, but it may be reduced to a minimum by proper care of the engine.

As long as the gases and the internal walls of the crankcase are hot enough to keep water vapor from condensing, no harm will result; but when an engine is run in low temperatures, moisture will collect and unite with the gases formed by combustion; thus, acid will be formed and is likely to cause serious etching or pitting. This etching, pitting or corrosion, when using fuel containing

considerable sulphur, manifests itself in excessively rapid wear on piston pins, camshaft bearings and other moving parts of the engine, oftentimes causing the owner to blame the car manufacturer or the lubricating oil when in reality, the trouble may be traced back to the character of fuel used, or a condition of the engine, such as excessive blowbys or improper carburetor adjustment.

WATER PUMP LUBRICATION

There is an oil cup, in the water pump body, just above the front water pump bushing, which should be lubricated every 1,000 miles. The oil cup should be filled with a good grade of engine oil which will allow the oil to soak into the bushing.

The grease cup should be filled with No. 2½ cup grease, or other water proof greases, and turned down every 1,000 miles.

CLUTCH THROWOUT BEARING LUBRICATION

The clutch throwout bearing collar has an oil reservoir, which is back of the clutch throwout bearing, with an oiler on the top. This allows the throwout bearing collar to be filled with oil which in turn seeps into the bearing.

It is only necessary to refill the clutch throwout collar when upon releasing the clutch a "squeaking" noise occurs.

To fill the clutch throwout bearing collar with oil, remove the cover plate on the toe board and the inspection cover on the clutch housing. It should be filled with S. A. E. No. 160 oil in summer and S. A. E. No. 90 in winter.

CARBURETOR ACCELERATING PUMP COUNTERSHAFT LUBRICATION

It is important that the countershaft that operates the carburetor accelerating pump be lubricated at least once every 5,000 miles. To lubricate this shaft, remove the screw attaching the dust cover and fill the threaded hole with graphite grease.

STARTING MOTOR LUBRICATION

Every 1,000 miles lubricate the starting motor by dropping a few drops of light oil, or engine oil, in the oil cup.

GENERATOR LUBRICATION

Every 1,000 miles lubricate the generator by dropping a few drops of a light oil or engine oil in the oil cups.

DISTRIBUTOR LUBRICATION

The distributor is equipped with a grease cup. Fill this cup with No. 2½ cup grease and turn down every 1,000 miles.

TRANSMISSION AND REAR AXLE LUBRICATION

TRANSMISSION

Keep the transmission case filled with the lubricant recommended below, so that the oil level stands even with the opening in the filler boss on the right side of the case.

When seasonal lubricant changes are made, it is a good plan to wash out the transmission with a light oil to remove foreign substances, such as grit or dirt. To do this remove the drain plug at the bottom of the transmission case and allow the oil to drain off, after which flush out the case thoroughly and refill with the oil recommended below.

REAR AXLE

Keep the rear axle case filled with the lubricant recommended below, so that the oil level stands even with the opening in the filler boss on the rear side of the axle housing cover.

When seasonal lubricant changes are made, it is a good plan to wash out the rear axle with a light oil to remove foreign substances, such as grit or dirt. To do this, remove the filler plug, at the rear, and drain the oil. Then flush out thoroughly with a light flushing oil and refill to the level of the plug with the recommended lubricant listed below.

UNIVERSAL JOINT

The universal joint is directly connected to and receives its lubrication from the transmission. The pipe plug in the housing is for manufacturing purposes and is used to fill the universal joint at the time the car is assembled. Additional lubrication at this point is unnecessary.

TRANSMISSION AND REAR AXLE LUBRICANTS

During the summer months a lubricant having the viscosity, or body of a S. A. E. No. 160 oil should be used.

During the winter months, or when the atmospheric temperature is expected to be consistently under 40 degrees F., a lubricant having the viscosity, or body, of a S. A. E. No. 90 oil should be used.

For extreme low temperatures, or when lubricants of the lower S. A. E. viscosity number cannot be obtained, it may be desirable to thin the lubricant with a low viscosity low pour test engine oil, or with kerosene. If this procedure is necessary, the addition of 30 per cent of an oil such as 20 W, or 10 per cent kerosene, will reduce the viscosity of a S. A. E. No. 160 lubricant to that of a S. A. E. No. 90 lubricant.

Lubricants containing solid material in suspension are undesirable for ball or roller bearing lubrication.

For your convenience a table is appended, listing the proper classification for various temperature conditions.

Lubricant Capacity—Transmission..... 2½ Pts.

Lubricant Capacity—Rear Axle..... 4½ Pts.

OPTIONAL MIXTURES TO APPROXIMATE EQUIVALENT VISCOSITY

Temperature Range	S. A. E. No. 160	S. A. E. No. 90	Kerosene	S. A. E. No. 160	20 W Oil	S. A. E. No. 160	Kerosene	S. A. E. No. 90	20-W Oil
Above 40 degrees F.	100%								
40 degrees F. to Zero degrees F.		100%		65%	35%	90%	10%		
Below Zero degrees F.		90%	10%	40%	60%	80%	20%	60%	40%
Extreme Temperatures Below Zero when Hard Shifting of Transmission Gears is Encountered		80%	20%	10%	90%	70%	30%	25%	75%

FRONT WHEEL LUBRICATION

The front wheels run on ball bearings which are lubricated by packing the bearings with front wheel bearing grease.

In mounting the front wheels, be careful to thoroughly pack the bearing assemblies with grease The lubricant for front wheel bearings should be entirely free from asbestos fibre or other similar materials.

Caution:—Do not over lubricate front wheel bearings, as over lubrication will cause grease to accumulate between the brake drums and the front brake shoes which will result in slipping brakes.

FRONT SPRING UNIT LUBRICATION

FRONT SPRING UNIT HOUSING

The front spring unit housings should be kept filled to the level of the filler plug with a low viscosity fluid, that has a pour test not higher than 30 degrees below zero.

The same fluid is used both summer and winter and will have similar operation characteristics the year around.

The shock insulation fluid recommended should have a viscosity range of from 70 to 80 seconds at 100 degrees F (Saybolt Universal) and should not exceed 975 to 1000 seconds at 20 degrees F. This type of fluid *is carried by all Chevrolet dealers and service stations.*

DO NOT, UNDER ANY CIRCUMSTANCES, USE A SHOCK INSULATION FLUID HEAVIER IN VISCOSITY, OR BODY, THAN THAT RECOMMENDED ABOVE. HEAVY BODY FLUIDS ARE DETRIMENTAL TO THE PROPER FUNCTIONING OF THE UNIT.

FRONT SPRING UNIT SPINDLE BUSHING

Every 10,000 miles the front spindle bushing should be lubricated. To do this, remove the plug at the inner end of the spindle and pack the reservoir with a lubricant such as soft cup grease, vaseline, or petrolatum Passages from this reservoir carry the lubricant through the spindle to the bearing surface

FRONT SPRING UNIT KING PIN

Front spring unit king pins are equipped with pressure gun lubricating fittings. The Chevrolet front spring unit design makes it unnecessary to lubricate the king pins as frequently as is required by the conventional front axle construction.

It is recommended that the king pins be lubricated every 1000 miles with the lubricant recommended under "chassis lubricant."

FRONT SPRING UNIT MISCELLANEOUS PARTS

Front spring unit parts, such as the tie rods, steering arms, and other parts which are equipped with pressure gun lubricating fittings should be lubricated with the lubricant recommended under "chassis lubricants."

REAR SPRING LUBRICATION

The rear springs are enclosed in metal covers. The spring leaves are coated and the covers are filled with a special graphite grease at the time the springs are assembled on the car.

The car owner should find it unnecessary to lubricate the spring leaves.

REAR SPRING SHACKLES

The rear spring shackles and saddles are equipped with pressure gun lubrication fittings. The shackles should be lubricated with the lubricant recommended under "chassis lubricants."

REAR SHOCK ABSORBERS

The rear spring shock absorbers should be kept filled with a low viscosity (light body) shock absorber fluid, that has a pour test not higher than 30 degrees below zero.

The same fluid is used both summer and winter and will have similar operating characteristics the year around.

The shock absorber fluid recommended should have a viscosity range of from 70 to 80 seconds at 100 degrees F. (Saybolt Universal) and should not exceed 975 to 1000 seconds at 20 degrees F. This type of fluid *is carried by all Chevrolet Dealers and service stations.*

DO NOT, UNDER ANY CIRCUMSTANCES, USE A SHOCK ABSORBER FLUID HEAVIER IN VISCOSITY, OR BODY, THAN THAT RECOMMENDED ABOVE. HEAVY BODY FLUIDS ARE DETRIMENTAL TO THE PROPER FUNCTIONING OF THE UNIT.

CHASSIS LUBRICATION

For chassis lubrication, consult the lubrication chart, Fig. *17*, which shows the points to be lubricated and how often the lubricant should be applied.

CHASSIS LUBRICANTS

The term "chassis lubricant" as used in this instruction book, describes a semi-fluid lubricant designed for application by commercial pressure gun equipment. It is composed of mineral oil (300 to 500 seconds Saybolt Universal viscosity at 100 degrees F.) combined with approximately 8 per cent soap, or soaps, which are insoluble in water.

The addition of the soap decreases the tendency of the lubricant to leak from the bearings in service.

Most of the chassis lubricants on the market are of the type recommended above.

BRAKE LINKAGE LUBRICATION

The brake linkage, or clevis pins, rods, etc., should be lubricated with a good grade of engine oil which will insure the correct operation of these units.

STEERING GEAR LUBRICATION

The steering gear housing is equipped with a pressure gun lubrication fitting. The steering gear may be lubricated with the lubricant recommended under "Chassis Lubricants."

CHAPTER V

SUGGESTIONS FOR THE MAINTENANCE OF A BODY BY FISHER

CARE OF THE FINISH

The Duco finish on a motor car possesses the merit of improving with age, at least, for several months, if the car is properly cared for and not subjected, unduly, to the elements.

An occasional polishing with Genuine Chevrolet Polish will restore the luster of the finish Never use Furniture Polish.

Genuine Chevrolet Polish is a cleaner, as well as a polish. It softens and removes the dirt film or "scum" which soap and water cannot clean off. It also revives weathered Duco, restoring its original beauty and luster. Do not become alarmed if the polishing cloths become stained with the color of the car. This only represents a weathering of the finish Use a dry, clean cloth for rubbing off the polish and working up the luster. A good, brisk rubbing will work up a beautiful finish

If alcohol, or anti freeze compounds containing alcohol, are spilled on Duco, they should be immediately flushed off with water If this is not done at once, serious damage to the finish will result. It is sometimes possible to remove the stain by using Genuine Chevrolet Polish

If Duco finish becomes damaged, have repairs made by your Chevrolet Dealer or at an Authorized DuPont Duco Refinishing Station. These stations have Duco in stock and have trained men and special equipment for making repairs.

CARE OF THE TOP

The top covering of the roof of your Fisher Body is subjected to the elements—heat of the sun, snow, rain, hail and dust When inspection shows that it is necessary, it should be treated with some well-known automobile top dressing, which may be purchased in small capacity cans Gasoline, naphtha, kerosene and

fabric cleaners should not be used for cleaning the top. Such preparations are likely to dull the luster and damage the top material, causing leaks

We recommend, for this purpose, Genuine Chevrolet Waterproof Preserver which should be applied according to the directions on the can

The top should be washed with *water only* no chemicals should be used After it has dried thoroughly, the top dressing should then be applied with a cloth. This work takes but a few minutes. If the top has been subjected to unusually trying conditions, two coats of the top dressing should be applied Many car owners, to be on the safe side, always apply two coats of top dressing, feeling that the precaution, in view of the slight effort required, is well worth while.

CLEANING THE UPHOLSTERY

Upholstery and trimming of Fisher Bodies are comparable to that which is used on the furniture in many of the finest homes. Furniture in the home, however, is protected from accumulation of dust, while the interior of your car is continuously exposed. Especially in the summer time, a car is driven day after day, over all kinds of roads, and subjected to greater or less continuous accumulation of dust. Therefore, the upholstery should be cleaned at least once a month with a vacuum cleaner, using the nozzle with which most vacuum cleaners are equipped. If a vacuum cleaner is not available, the upholstery should be brushed briskly with a whisk broom. It will take only a few minutes to do this, including the cleaning of the trimming on the sides and roof, and it will keep the interior of your car looking fresh and attractive.

Should the upholstery become spotted with grease or other substances, the stains can be removed with any good cleaning fluid, such as is used in removing stains from woolen or silk garments.

After the cleaning fluid has thoroughly evaporated, wet a cloth, wring and apply to the surface and press lightly with a hot flatiron, in much the same manner as a tailor presses a garment.

Steaming the fabric in this manner and rubbing lightly against the nap will raise the nap to its normal condition and will assist in restoring the texture to its original state.

HOW TO PREVENT SQUEAKS AND RATTLES

The body of a motor car is attached and held to the chassis by hold-down bolts. These bolts should be gone over once a month and tightened whenever necessary.

The body rests on rubber shims and anti-squeak material, which are between the sill of the body and the top of the chassis frame. A shim is placed at each bolt.

If these bolts become loose, the body immediately starts to shift on the frame. This throws an abnormal strain on all joints, and squeaks and rattles usually result.

The majority of squeaks and rattles that develop in a closed body can be traced directly to loose hold-down bolts. Therefore, a few minutes devoted once a month to tightening these bolts is time well spent.

This is an essential bit of service that is frequently neglected, and yet it has an important bearing on your own comfort and motoring satisfaction. Take these precautions and the body of your car should continue to function silently and retain its newness.

WINDOW REGULATORS

The window regulators on Fisher Bodies are of a special design, made in Fisher plants, and are rigidly inspected several times before they are finally installed in the body. These window regulators are to raise and lower the glass with the least possible effort on the part of the operator; but it must be remembered that they can be broken or put out of order by misuse.

If the regulator is forced after the window has gone as high as it is allowed to go by the body construction, a tremendous strain is thrown on the working parts of the regulator, inasmuch as the leverage on the handle is very great. This is also true when the window is down as far as it will go. Should anything go wrong with the regulator, it is necessary to remove all the trimming on the door, to make repairs. Broken glass, however, can be replaced by simply removing the garnish mouldings, putting the channel on the new glass and installing same, replacing the garnish mouldings.

While this unit is as strong as it is possible to make it in the limited space allowed for its operation, it is not indestructible With proper usage, however, permanent satisfaction is assured.

DOOR LOCKS

The door locks are manufactured in Fisher plants, from the best material obtainable, according to Fisher designs.

The only care that the door locks need is a little oil put on the lock bolt once every few months. After applying the oil, work the lock bolt back and forth, so that the oil will work itself into the lock. Then the oil should be wiped off the outside, so there will be no danger of staining one's clothes.

DOOR HINGES

The door hinges will not need any special attention, other than to keep the screws tight and to drive in the pins, in case they become loose. However, it is advisable to put oil on these hinges about once every six months, or upon the first indication of the door not operating freely. The frequency of lubrication depends upon the car's usage and the number of times it is washed.

DOOR DOVETAIL BUMPER ASSEMBLY

The wedge plate on the dovetail should have a very slight amount of grease applied about once a month. This keeps the door working freely, inasmuch as this plunger wedges between two plates and pressure is very high at this point. Should the doors begin to stick, a very slight amount of grease will remedy the condition.

AUTOMATIC WINDSHIELD CLEANER

The automatic windshield cleaner used on closed models is actuated by vacuum created in the intake manifold to the engine

The control of this instrument is located on the windshield header. To operate the cleaner, pull out the button thus opening the by-pass. To stop the action of the cleaner, push in the button as far as it will go.

The windshield cleaner needs practically no attention, though at long intervals it is advisable to lubricate the device. The only other point which need be taken into consideration, aside from the adjustment of the rubber holding rod, is to see that the suction line does not have an air leak.

In adjusting the rubber holder rod, be sure to bring the wiper in light contact with the windshield glass. Do not get too much pressure at this point.

SAFETY LOCKS

Every closed body by Fisher is equipped with safety locks which operate on the same principle as the night lock on the door of a house. These locks are controlled by a dog or locking pin, which projects above the edge of the windows inside. Shutting the door and depressing the pin securely locks the door. Opening the door, from the inside, with the remote control handle, automatically unlocks the door and the locking pin returns to its original position. This feature makes it possible for the driver to lock all doors from the inside.

When the doors are locked, it is necessary to use the key in order to gain entrance to the car. This feature, makes the car with a Fisher Body as nearly theft proof as an automobile body can be made. Always remember, therefore, to have your door key on your key ring.

CHAPTER VI

MISCELLANEOUS DATA

ICE ON WINDSHIELD

If you are troubled with snow and ice sticking to the windshield, this condition may be remedied by rubbing a thin film of glycerine on the windshield glass DO NOT USE ALCOHOL

TIRE MOUNTING AND DISMOUNTING INSTRUCTIONS

DO NOT ATTEMPT TO INFLATE A COMPLETELY DEFLATED TIRE WITHOUT FIRST JACKING TIRE CLEAR OF THE GROUND.

USE OF SOFT SOAP

Tire changing is made extremely easy by coating the inside and outside of the tire beads with a soft soap, which also protects the soft rubber tips of the tire beads, and helps the beads to slide back completely against the rim flange The use of soft soap is highly recommended. DO NOT USE OIL OR GREASE.

DISMOUNTING TIRE

Deflate the tube completely and remove the rim nut.

Loosen both beads from the rim ledges, using a tool if necessary *If the tire beads are frozen tightly to the rim ledge, it will be found necessary to dismount the wheel, and to stand on the tire with the feet close together with heels as near the rim flange as possible, press with the heels, in order to force the tire bead off the ledge*

Remount the wheel on the axle and lock the wheel by the hand brake with the valve stem halfway between the top and the bottom

Put both tire beads in the rim well at the top and pull the tire straight out towards you at the bottom until sufficient length of the first bead has come off of the rim flange so that you may take hold of it

Pull the remainder of the first bead off of the wheel and remove the tube.

(*Soft soap on the rim flange and tire bead at the bottom will greatly facilitate the pulling off of the first bead. A 10-inch tool will also facilitate this portion of the dismounting.*)

Remove the second bead in the same manner.

NOTE: Alternate Method of Dismounting Tire

If the car is in such a position that the operation of a jack is convenient, it will probably be found easier to dismount the tire by lowering the car slowly, making sure that both tire beads are in the rim well at the bottom when the tire touches the ground. Do not completely lower the car—just lower it sufficiently to make sure that the beads are kept in the well.

Pull the tire off the rim from the top until the outside bead is over the rim flange for 12 to 24 inches.

Raise the car to clear the tire from the ground and pull the remainder of the outer bead over the rim flange.

Remove the inner tube.

Remove the second bead by holding the tire up at the bottom with your foot, keeping the bead in the well and pulling straight out at the top.

MOUNTING TIRE

Soap should be used on the tire beads to insure proper mounting, and to facilitate mounting.

Lock the wheel on the axle with the valve hole near the top.

Inflate the tube until barely rounded out, and insert in the tire with the valve at the red mark on the casing. Place the dust cap on the valve stem, pull out to its full length, and tighten so that it will not slide up and down on the stem. Place the tire on the rim, guiding the valve through the valve hole.

Place the back bead in the well at the top and push the remainder of the bead over the flange, working from the top both ways, using the palm of your hand until the entire first bead is on.

Start the second bead at the valve, and work *one way* from the valve, so that the last portion of the second bead to go on the wheel is near the valve stem.

Pull the valve stem all the way out by the extended dust cap. Then push the outside sidewall of the tire back, so that the tire bead will keep the valve stem from slipping back into the wheel.

Remove the extended dust cap and put on the rim nut.

Turn the wheel so that the valve stem will be down, and inspect so that the tube will not be pinched under the tire bead.

Inflate slowly, and see that the tire is centered on the rim on both sides, using the guide line on the tire.

WHEEL ON THE FLOOR OR SPARE TIRE RACK

The mounting and dismounting of the tire is most easily accomplished with the wheel on the axle of the car. However, mounting and dismounting can be accomplished with the wheel on the spare tire rack or on the floor by following the general procedure of the above instructions.

GENERAL INFORMATION

Dismounting or mounting tires on Drop Center rims is not difficult if instructions are followed. In fact, tires can be applied to drop center rims by hand, without tire irons; although the use of short tire tools facilitates mounting. If it is found that tools longer than 10 inches are necessary, this in itself is good evidence that the method of applying the tire is incorrect, and the instructions should be reviewed again.

The toe of each bead has a soft rubber tip which should not be damaged in the process of applying or removing the tire. This soft rubber tip protects the tube from chafing.

Be careful not to pinch the tube with the tire tool or valve.

In prying the bead over the flange, if it seems to take too much force, it is an indication that the bead is not down in the well on the opposite side of the tire. Inside of each tire bead is a hoop of wire which should not be broken or unnecessarily strained.

Before inflating the tire, it is imperative that the tire be centered on the rim. For tires having centering or guiding ribs, the ribs should show uniformly above the rim flange.

Always apply the rim nut before inflating and apply the valve cap after the tire is fully inflated.

TIRE PRESSURE

Examine the tires to see that they are not damaged or under inflated. Passenger car tires (5.50" x 17") should carry a pressure of 28 pounds minimum to 32 pounds maximum, both front and rear.

This is very important, for the reason that if the deflection is

too great—i. e., if the tires flatten out too much under load, due to under-inflation—trouble is sure to follow.

A drop of even two or three pounds in pressure quickly affects tread wear. The edges of the tread are subjected to a scuffing or wiping action, which rapidly ruins the tread.

To secure best results from balloon tires, they must be inflated to the above pressures and should be tested frequently, to insure that the pressure does not drop more than three pounds before they are again inflated.

The red dot should always be assembled so that it is at the valve stem. The tire, assembled on the wheel in this manner, insures perfect balance. If the tire is assembled with the red dot in any other position, the wheel will be out of balance, and this condition may contribute to front wheel shimmy.

SUMMARY

1—Lubrication

Check engine oil level and add a good grade of engine oil when necessary. Lubricate chassis at regular intervals, according to Lubricating Chart (Fig. *17*)

2—Cooling System

Keep radiator and cooling system filled with clean water.

3—Storage Battery

Every two weeks, inspect storage battery and add distilled water, when necessary, to insure battery efficiency.

4—Do not "ride the clutch" by slightly depressing the clutch when driving. This practice will cause early renewal of clutch parts.

5—Use low speed gear in transmission when starting, rather than second or intermediate, as by so doing early renewal of clutch and transmission parts will be eliminated. The low speed gear is installed for a purpose—let's use it.

6—Save your brakes by leaving the clutch pedal engaged when descending a hill. The engine compression will assist in the braking effect.

7—Consult your Authorized Chevrolet Dealer on your automobile problems—his mechanics are trained; his tools are standardized and approved; his methods are efficient; his labor rates are equitable; he uses Genuine Chevrolet Parts for replacement.